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X-RAY EXAMINATION OF THE VISUALIZED GALL BLADDER.*

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The study of the gall bladder by means of the X-ray has been a subject of general interest since early in the history of roentgenology. At first, efforts were directed towards the demonstration of gall stones on the X-ray plate. Beck[1] is credited as the first worker to make such a demonstration. Subsequent to Beck's accomplishment, reports of the demonstration of gall stones were occasionally published. Following the reports of visualized gall stones came the announcement of a visualized gall bladder. These reports became more frequent with improvement in technique. In such cases the gall bladder contained inspissated bile, or its walls were thickened or calcified, although occasionally a shadow of a normal gall bladder was visualized. As a general rule, the routine examination of the gall bladder yielded negative results, even though actual pathology may have existed. The work of Pfahler,[2] Cole,[3] Case,[4] George and Leonard,[5] and others, stimulated further interest in the X-ray examination of gall bladder. The studies of George and Leonard consisted in making X-ray diagnosis of gall bladder disease by indirect signs. These studies occasioned much interest and often valuable information was obtained by these methods. It was found, however, that these signs could be found in other conditions and therefore the method could not entirely be relied upon as a means of absolute diagnosis. A negative X-ray report for gall bladder disease was valueless, as it did not mean the absence of gall bladder pathology and a positive report was at times given when the gall bladder was normal. Many negative X-ray reports were being made and at operation a large number were proven positive and vice versa. The unreliability of the methods of X-ray examination of this structure, eventually led almost to an abandonment of this procedure as a diagnostic aid. Radiologists appreciated the necessity of some improved method which might permit of more accurate observations upon the condition of the gall bladder. It was realized that if the gall bladder could be visualized, as could be accomplished for the alimentary and urinary tract, valuable information could of course be obtained. The difficulty arose in devising some method whereby such visualization could be produced.

The announcement two years ago by Graham and Cole[6] that they had discovered a unique method whereby the gall bladder could be visualized roentgenographically, stimulated universal interest. Roentgenologists realized at once that such a discovery permitted of a broad scope of its application in the study of this heretofore hidden structure. At first the sodium salt of tetrabromphenolphthalein was employed, but later it was replaced by the sodium salt of tetraiodophenolphthalein,

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which gave a denser shadow and did not require as much of the dye for diagnostic purposes. The tetrabromphenolphthalein depends upon its bromine content to produce a shadow with the X-ray. The atomic number of bromine is 80 and its approximate absorbability rate to the X-rays is 1041.329. In the instance of the tetraiodophenolphthalein, it is the iodine content that casts a shadow. The atomic number of iodine is 127 and its approximate absorbability rate is 6026.432, yielding thereby a shadow 6 times greater than bromine. Again there is 47 per cent of bromine in the tetrabromphenolphthalein, while in the tetraiodophenolphthalein the iodine content is 59 per cent. It can be appreciated therefore that the tetraiodophenolphthalein casts a much denser shadow and it will produce sufficient visualization with less of the dye for diagnostic purposes. It is for these reasons that tetraiodophenolphthalein is employed at the present time.

There are several methods used in administering the dye in cholecystography. Of primary importance is the intravenous method which is by far the most accurate affording definite and reliable information. This is the method of choice and should be employed whenever possible. The next method is the introduction of the dye per oram. This oral method is fast becoming the method of most frequent use because of the simplicity of its application. It should be remembered, however, that the information elicited is less by this means than by the intravenous route. It is the method of choice only when the intravenous route is contra-indicated. In the oral method, however, we obtain very valuable information about the gall bladder that is of important diagnostic value. This is especially true in gall bladders that fill normally wherein the outline of the shadow is clear and the rapid reduction of the shadow during digestion is demonstrated. In such cases the likelihood of gall bladder disease is very remote. In the cases in which either no shadow or only an imperfect one has been obtained by the oral administration a check should be made by the intravenous route. This does not apply where the patient has vomited the capsules or they have been undissolved, in which instance the test should be repeated. The intraduodenal and rectal methods have been tried but are not in common use.

From a diagnostic standpoint, when the technique employed is correct, the following deductions can be drawn: (1) A non-visualized gall bladder is strongly suspicious for gall bladder disease. (2) A gall bladder that is slow in emptying without response to digestion is indicative of abnormal physiological function. (3) A small contracted, slow emptying gall bladder with poor concentration is highly suggestive of pathology of this structure.

The causes for non-visualization are as follows: An obstruction of the cystic duct either by stone, angulation, bands of adhesion or a swollen mucous membrane. The content of the gall bladder may be such as to fail to mix readily with the dye impregnated bile. We refer to thickened mucus or inspissated bile. The walls of the gall bladder may be so thickened and the lumen so contracted that there is not sufficient bile retained to cast a shadow. The gall bladder may be so large or the amount of the contents so great (as in hydrops) that the opaque bile is diluted to such an extent it does not outline the gall bladder satisfactorily. The liver functions may be so poor as to delay or entirely prevent a sufficient amount of the impregnated bile from entering the gall bladder.

In the dye method of examining the gall bladder, the dye is taken up by the blood stream and carried to the liver and impregnates the bile.

The dye method of examining the gall bladder with the X-ray permits cholesterine stones to be visualized. On account of the low absorbability rate of these types of stones, we have heretofore been unable to

obtain their shadows by radiological methods. Their absorbability rate is about 98.06, which is less dense than the liver shadow. In these cases through the modern dye method the opaque bile surrounds the stones in such a manner that they can be recognized by negative shadows, that is to say, that a rarefaction of the shadow cast by the dye occurs through its displacement by such stones. Previous to the advent of the dye method of visualizing the gall bladder the percentage of reported gall stones with the X-ray was from 30 to 40 percent, and none of these were of the cholesterine type. This percentage has been greatly increased and now includes all types of calculi.

The visualized gall bladder has been the subject of experimental studies which have brought forth many interesting facts. Among these is the work of Silverman and Menville,[7] which has shown that non-surgical biliary drainage produces a reduction in the size and alteration of the shape of the visualized gall bladder. This work has been confirmed by Comstock,[8] Eberhard,[9] Sasman, Whitaker and Edson,[10] and Whitaker.[11]

As regard the recent method of Graham and Cole for visualizing the gall bladder reports are coming from all parts of the country as to the success of this method in medical diagnosis. Moore[12] reports that cholecystography has been done 552 times at the Barnes Hospital, by both the oral and the intravenous methods. One hundred and five of these were submitted to laparotomy, 82 of which required cholecystectomy. In the remaining 23 instances other operations were performed at which the gall bladder was observed and the condition noted to be normal. In these cases the surgical operation confirmed the X-ray diagnosis in 95.5 percent of the 105 cases. Brans[13] reports that in 100 cases of oral administration of the dye, .43 of these were proven correct at operation and 2 were incorrect. The remaining 55 were not operated upon, but in these the clinical and X-ray diagnosis agreed. Carman[14] of the Mayo Clinic, in an early report, states that of 39 patients primarily subjected to this method, 34 showed evidence of gall bladder disease. All of these were subsequently operated upon for pathology of the gall bladder.

CONCLUSIONS.

(1) A normal gall bladder may be visualized with the X-ray through the method of administration of the sodium salt of tetraiodophenolphthalein.

(2) This method of cholecystography is a safe procedure in medical diagnosis.

(3) Its employment in gall bladder excentage of correct conclusions than was hitherto possible.

(4) Cholesterol stones are visualized only by cholecystography.

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DISCUSSION.

Dr. Lucien A. Fortier (New Orleans): Dr. Menville has covered this subject very thoroughly and it is hard to add anything new to what he has said. We routinely use the pills first and if the examination is satisfactory we don't use the intravenous dye. If it is unsatisfactory then we use intravenous administration.

Some of the older signs of gall bladder disease as shown up by the x-ray have been falacious. The pressure on the duodenum from the gall bladder unless very deep was found not to be due to gall bladder disease. If a gall bladder does not show a shadow after the administration of pill or intravenous dye injection, that gall bladder is considered now to be abnormal. This is a great step forward in the diagnosis of gall bladder disease.

Dr. J. A. Danna (New Orleans): A year or so ago I read an article in one of the Italian journals in which a man named Milani reported using sodium bromid. He stated that in the tetrabromphenolpthalein what did the work was the bromin element and that the most harmless compound of bromin was sodium bromid, which he used in thirty gram doses, and he showed some very good pictures as a result.

I have been trying to get somebody else in New Orleans to tell me that using thirty grams, which is approximately one ounce of sodium bromid, would be a safe thing to do but I haven't found anybody who would and I haven't yet had the courage to use it, but I would like to ask Dr. Menville what he thinks of it.

Dr. H. E. Bernadas (New Orleans): I would like to ask whether when the dye by mouth causes vomiting it will be safe to give that same dye intravenously.

Dr. Daniel N. Silverman (New Orleans): The administration of any substance by mouth is a very uncertain factor. For years we have been giving the salol coated pills of ipecac in the treatment of amebic dysentery, and we find that certain individuals will dissolve and absorb them without any trouble and others will pass them on without any dissolution of the pills or absorption. I have found that reactions were as persistent by the administration of these dyes by mouth and just as severe as they are by the intravenous administration.

Only occasionally have I had reaction such as diarrhea by the intravenous administration of either the bromid or the iodid salt. However, the intravenous administration is attended by considerable danger. The systemic reactions are not so severe but it isn't very hard to get just the smallest quantity of the salt outside of the vein and if you do the administration should be stopped immediately because there is a local reaction, a venous thrombosis, and I have seen considerable sloughing that worried me quite a bit.

Up to the present time the use of these dyes for the study of gall bladder, I believe, is limited to the study of the gall bladder function. The size, shape, position and emptying time of a gall bladder can be studied by the way the gall bladder fills up with the dye, but if a shadow is not cast, especially in a diseased condition and especially when administered by mouth, I attach no importance to it unless, as Dr. Menville has said, an intravenous administration has been made.

Of the three radiologists, principally Dr. Menville, who did the original experimental work with me, I have found no difficulty in getting shadows of a normal gall bladder.

Dr. N. F. Thiberge (New Orleans): I would like to ask Dr. Menville a question. He spoke of the contraindication for the dye. In closing his discussion I would like to have him mention some of the principal contraindications so that the general practitioner can be posted about the drug.

Dr. Menville (in closing): I particularly want to thank my colleague, Dr. Fortier, for his very kind remarks. Dr. Fortier's work on the gall bladder at the Hotel Dieu is well known, and it is recognized by the medical profession in the City of New Orleans as being among the ablest work being done at this time.

In answer to Dr. Danna, it is true that the bromine molecule in a chemical substance, is what casts the shadow; as to whether sodium bromide is excreted by the bile, I would have to ask Dr. Silverman that. I don't know. However, there were two workers at the Mayo's two or three years ago, introduced sodium bromid intravenously in a dog and were very much surprised to find that it was excreted by the kidneys.

In answer to Dr. Bernadas as to vomiting, I don't believe there would be an special reason to believe because a patient has vomited the pills he would be an unfit subject for the intravenous injection. That would only indicate that the capsules had dissolved in the stomach instead of in the

intestine. Occasionally we have patients who are intolerant to the capsules but by repeated administration we usually are able to obviate this, particularly by administering some alkaline previous to the administration of the dye.

Dr. Silverman's remark is very much to the point. The intravenous route is, of course, as mentioned, very highly desirable. There are certain technicalities attached to this method. I don't think that the intravenous route will ever become a general routine. It requires certain special technic in the hands of men who are more or less familiar with the intravenous use of medication.

In answering Dr. Thiberge, I don't know of any fatality or death that has yet been recorded directly attributable to the administration of the dye. Severe cardiac lesions I believe are now understood as being conditions contraindicating the use of intravenous administration.

ANALYSIS OF POST-OPERATIVE MORTALITY AND POST-OPERATIVE MORBIDITY IN GALL BLADDER DISEASE.*

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In order to check up on the gall-bladder work of my service and with a view to improving it, my associates, Drs. Rateau and Davidson, and myself, undertook a study of the records of four hundred and seventy-six consecutive cases. This represents the total number of gall bladder operations performed in all services at Charity Hospital during a period of ten years, extending from 1914 to 1925. A similar comparative study was also made simultaneously of seventy-three consecutive cases from the service in which we are particularly interested and occurring during part of the same period. The revelation was rather startling and in certain particulars almost shocking, but nevertheless, most illuminating.

The study was directed especially to an analysis of post-operative deaths and to the making of certain observations in connection with the comparatively large number of individuals not completely and permanently relieved by operation. Incidentally, a certain number of interesting facts were noted.

In the total number of cases studied there were one hundred and seventy-four (174) males and three hundred and two (302) females. One hundred and seventy-three (173) cases had stones and twenty-six (26) had had typhoid fever. There were only seventy-eight (78) cases recorded as acute and the balance of three hundred and ninety-eight (398) were classified as chronic. Ether alone or with nitrous oxide were the predominating anesthetics. Ethyline gas and splanchnic anesthesia were used in but few instances during the period covered. Incidental appendectomy did not affect the mortality to any appreciable extent, as in 137 cases the mortality was only 11.67%.

Cholecystectomy was done two hundred and ninety-six (296) times with a mortality of 16.21%.

Cholecystostomy was done, one hundred and eighty (180) times with practically the same mortality 16.11%.

Of the seventy-eight (78) cases classified as acute, twenty (20) died, making a post-operative mortality for acute cases of 25.61%. So that over one-fourth of the acute cases succumbed.

In three hundred and ninety-eight (398) chronic cases, fifty-seven (57) died, making a mortality of 14.32% for chronic cases, irrespective of the type of operation performed.

Of the total cases operated, seventy-seven (77) died. So that, including cases of all types, whether simple drainage was done or whether the gall bladder was removed, we have a total post-operative mortality of no less than 16.17%.

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These figures proved to be far beyond expectation, so that even though certain conditions prevail at Charity Hospital which tend to explain this high mortality, the fact still remains, and should serve as an object lesson, not to rely upon individual impressions for gauging post-operative results. In analyzing this high mortality, one of the conditions referred to, which stands out as an important element for consideration, is the fact that, while the head of the service is technically responsible for all deaths in his service, all operations are by no means performed by him alone. Since the assistants are graded according to length of service and therefore according to experience, the personal equation figures very prominently in the production of the mortality. Not that this is by any means the only factor. For example, every large charitable institution is always a clearing house for advanced pathology, and this also inevitably plays a part in increasing mortality. So that without considering anything else, the realization of these facts alone tends to minimize considerably the rather disconcerting figures. Although by no means entirely satisfactory either, individual study of the smaller group of cases revealed results in some respects considerably less humiliating.

In the series of seventy-three consecutive cases from service nine, occurring during part of the period covered, the mortality for cholecystectomy was 5.45% against 16.21% in the larger series. On the other hand however, though cholecystostomy was done only eighteen times, the mortality was 27%. This mortality can possibly be accounted for by the fact that only acute cases are drained in the service, hence these cases represent the worst operative risks encountered.

In the cases classified as acute, the mortality was 12.5% as against 16.38% in the larger series. In chronic cases the mortality was 10.52% as against 14.32%. The gross mortality for all types of cases, irrespective of the type of operation, was 10.95% as compared with 16.17% in the larger series. But even this is by no means entirely satisfactory. So that the question of the cause of death naturally suggests itself for scrutiny.

Various conditions are assigned as to the cause of death, chief among which are surgical shock, post-operative hemorrhage, sepsis, myocarditis, diffuse peritonitis, and acute nephritis. In studying the individual deaths, one is struck by the fact that a number of cases were the victim of too much operation. One of these cases had a cholecystectomy and coincidently excision of a urethral caruncle, anterior colporrhaphy, amputation of the cervix, perineorrhaphy, oophorectomy and appendectomy. This patient was said to have died of shock.

This brings up the question as to what can be done to diminish post-operative mortality. Closer attention to pre-operative study and preparation suggest themselves for serious consideration. More careful thought to the selection and administration of the anesthetic might prove of inestimable value, particularly in institutions where all the anesthetists are not experts. Under these circumstances especially, more frequent selection might possibly be made of splanchnic anesthesia. Finally, great improvement might be expected from more careful attention to the development of technical skill, not only from the standpoint of operative surgery, but also in the handling of the patient both on the table and post-operatively. This includes the determination of the CO_2 combining power, coagulation and bleeding time as well as the exercise of judgment in selection of the operative procedure.

In this connection also, too much stress cannot be laid on the importance of operating by sight and not by touch alone. This means the making of a liberal incision. The suggestion of Crile to avoid undue chilling of the liver and other viscera and to make provision for retaining the body heat both

during and after operation, give food for thought. In the cases where drainage is considered compulsory as a primary procedure, post-operative adhesions from bile leakage might be avoided by the use of a supplementary, tubular, soft-rubber-tissue drain, incorporating within itself not only the gall-bladder drain, but the joint between the drain and the gall bladder, as well as the fundus of the gall bladder itself.

The cases of drainage that do well are those where the drainage is prolonged. This means inevitable necrosis and leakage at the point where the tube is fixed to the gall bladder and consequent diffusion of bile with formation of adhesions. This leakage is caught by the supplementary tubular drain. It might be stated that this method of drainage has been in use for some time but not long enough to prove its efficiency at reoperation. Your attention is next called to the problem of post-operative morbidity in gall bladder disease.

While the record of this series of cases does not furnish us complete, accurate data as to the ultimate results obtained by operation, certain deductions may be drawn from the available material. It is generally conceded that a very considerable number of cases operated upon for gall-bladder disease are not permanently and completely relieved of symptoms. What is the explanation of this? The answer lies in a study of the complications of gall-bladder disease more or less directly referable to the biliary tract especially. Of the total number of cases operated upon in the series no less than sixty-nine (69) or nearly fifteen (15) percent, were left with a permanent, pathological residue beyond the reach of surgery. So that, while it might have been perfectly justifiable to drain or remove the diseased gall bladder, in either instance, a limited operation was performed for a ramifying, complicated and intangible pathology. In other words, the simple drainage or removal of the gall bladder alone cannot be expected to give permanent relief of all digestive symptoms when there are still remaining such pathological abnormalities as, extensive adhesions involving the stomach, liver, and colon; cirrhosis of the liver; extensive colongitis of long standing, with or without common duct obstruction; chronic pancreatitis, and similar conditions representing more or less permanent damage not amenable to surgical intervention. Analysis of the biliary complications in the group of cases studied bears this out very strikingly.

Furthermore, in this study there were found no less than 30% of cases with other gross pathological entities not connected with the biliary tract, yet capable in themselves of producing serious symptoms. As examples of this might be mentioned, extensive adhesions, tuberculosis, uterine myomata, malaria, intestinal parasites, active syphilis, chronic nephritis, colitis, and a long list of others. So that, from this series at least, almost 50% would be expected to continue to be sick, to a certain degree, in spite of the gall bladder operation.

What is the lesson to be drawn from these observations? When the direct, complete eradication of the pathology is admittedly beyond the reach of surgery, we are compelled to give serious consideration to prophylaxis.

Prevention then of the permanent, pathological damage should command our attention. One practical way of putting this idea into execution, lies in a vigorous opposition to prolonged delay in operating, not only for gall bladder disease, but also for appendicitis. The early removal of the primary infectious focus, before the onset of cirrhosis or extensive biliary damage is the only means of cutting down this fifteen percent that we know, cannot be cured. This is not a plea for indiscriminate operation for pseudo-appendicitis or half-studied cases of gall bladder disease. Reference is made only to cases properly observed in which the diagnosis is unquestionable. In the other type of cases with independent

pathology, already referred to, attention of course should be focused directly on the intercurrent condition before promising the patient complete relief. A clear understanding with the patient as to just how much is to be expected from each surgical procedure will prove of value.

To summarize, then, the salient points of this study, the following should be noted:

1. The post-operative mortality in gall bladder is too high in spite of certain extenuating conditions.

2. This high mortality is certainly amenable to improvement.

3. Incidental appendectomy does not affect mortality to any appreciable degree.

4. In certain cases, where there remains extensive, permanent damage in the biliary tract even after operation, no complete, lasting results should be expected.

5. It should not be overlooked that many cases have coincident pathological conditions independent of the biliary tract yet fully capable in themselves of producing symptoms, in spite of the gall bladder operation.

6. To prevent permanent irremediable damage in the biliary tract, operations should not be too long delayed and early removal of intra-abdominal septic foci should be practiced.

DISCUSSION.

Dr. Jos. A. Danna (New Orleans): The subject has been so thoroughly covered that I find myself rather at a loss as to what to say. A few things I was going to say Dr. Gelpi has already said for me. However, I would like to lay stress on a few of the points he has brought out. One is the previous preparation of the patient;—not only the previous preparation of the patient, but a previous attempt at making a diagnosis. I find it harder to make a diagnosis of gall bladder disease than anything else I have to do, and I never operate on a gall bladder case without turning it over to a gastro-intestinal man and letting him play with the case for a while, as it were. Very often that gastro-intestinal man will find other things the matter with that patient that he can play with for a while and I find myself congratulating myself that I didn't do a gall bladder operation.

Another thing that I am constantly preaching and that is constantly sounding in my own ears is this: Never put a patient on the operating table with the idea of doing a certain surgical procedure, but remember that that patient is in your hands to get well and for no other reason. Too often a case is scheduled as a gall bladder operation, a probable cholecystectomy. The operator goes ahead, takes the gall bladder out, closes his patient up and sends him back. He has done a beautiful operation but he doesn't know whether he has done anything for his patient or not because he hasn't properly investigated at the time of operation.

I am very sorry to see here that Dr. Gelpi limits the operative procedures that can be done in gall bladder work to two things: cholecystectomy and cholecystostomy. Those are not the only things you can do in gall bladder surgery. I am sure there must have been other surgical procedures performed in the Charity Hospital in that time. The principal thing I would like to call attention to is cholecystenterostomy or cholecystogastrostomy, whichever you choose to do. There are many very sick patients with biliary tract disease in whom the common duct is obstructed in some way. If you take that case and drain it you will get a permanent biliary fistula. If you do a cholecystectomy on him you will kill your patient. Those are cases for cholecystenterostomy, and in a large proportion of gall bladder cases I do cholecystenterostomy.

At a recent Hotel Dieu staff meeting, the question of what was responsible for the mortality in these cases, for the high mortality that some of us got, came up. One of the things that was brought out was the fact that if you traumatize the region of the solar plexus in any way your patient is apt to be seriously shocked. You know the old story about the prize fighter who hit his opponent on the solar plexus. You hit your patient in the solar plexus without the protection of the abdominal wall if you are not careful.

Dr. Salatich brought out the fact that in these cases where you have done traumatism in that region, the administration of adrenalin following the operation is a good thing.

Let me lay stress on one point in the pre-operative preparation of these cases. Very often a patient is sent to a hospital and immediately put on liquid diet. That usually means a few drinks during the day. I make it a point to fill my patients with fluids up to almost the very last minute—up to the hour of the time of the oper-

ation. Your patients should be nourished as late as possible before the operation. We know that the patients who do best following operations are patients who are brought in in an emergency, right out of the street, on whom we do the most serious operations, yet those fellows get well in a hurry and some of the patients who are prepared for a long time ahead of time don't, because they are starved.

Dr. Urban Maes (New Orleans): It was Sir Berkeley Moynihan, I think, who said that statistics could be made to tell anything, even the truth. The startling figures which Dr. Gelpi has presented to us undoubtedly tell the truth, and we should be grateful to him for the time and effort he has expended in this analysis. We are taught to believe that the mortality of gall bladder surgery should not be more than 5 per cent, and yet the Charity Hospital figures are 16 per cent. Obviously we should analyze our results and try to find some explanation of this astounding death rate.

The first and perhaps the most important reason is that a large majority of the cases handled in a public hospital are of the advanced type; that is, the gall bladder disease has been existent so long that marked liver pathology is coincident with it, and recovery is correspondingly more dubious. Again, many of our cases are improperly prepared. We do not study them as we should, and we do not individualize our cases; we operate without any special endeavor to view our patient as an individual and to consider how much surgery he can stand. And lastly, unpleasant as it may be to admit it, poor surgery is undoubtedly responsible for a portion of this mortality, for a certain number of the cases must be done by men who are actually or relatively inexperienced in major surgery.

The particular value of this study will lie in our endeavor to correct the conditions which Dr. Gelpi has pointed out, and a few practical considerations may be mentioned. As I have already said, the preparation of the patient is more important than we are wont to think it is. Careful investigation of the function of the various organs, particularly the heart, kidneys and liver, is undoubtedly demanded before any gall bladder surgery is undertaken. Certain drugs, as we know, should be administered in some instances as a pre-operative routine. Dr. Mayo, for instance, pointed out to us yesterday the value of the intravenous use of calcium chloride and glucose in cases showing marked jaundice or any liver pathology.

The choice of anesthetic is obviously important, and the minimum of trauma during the actual operative act is a desideratum.

If we analyze the causes of death in gall bladder surgery, we find that they fall into certain definite groups. Organic lesions of the heart and kidneys furnish a large number of these cases, and the remedy in this instance I have already pointed out, pre-operative study and preparation.

Deficient liver function is responsible for another group, in which pre-operative preparation will also reduce the mortality. Hemorrhage and shock are other causes of death, in many instances preventible causes. Another group of deaths must be set down as chemical deaths; these are the patients who develop post-operative acidosis, alkalosis and similar allied states, all of them probably due to defective function, and many of them preventible if the proper study were made before operation, and the proper remedies administered to overcome these chemical conditions.

I take exception to the statement made by one of the last speakers that we should never go into a case with a fixed idea of our procedure. I believe that in most abdominal surgery it is a real life-saving measure to operate on an accurate diagnosis, with an accurate picture of the patient's condition, organic function and probable resistance, and with a fairly definite idea of the procedure to be followed. I admit that in many instances conditions within the abdomen may force us to change our minds, but information available before the patient goes to the operating table will in most cases give us a definite basis for our decision to do a cholecystectomy or a cholecystostomy.

Dr. D. W. Kelly (Winfield): I have been practicing medicine for twenty-three years. When I first began practicing medicine I drained my gall bladder cases and my cases were still sick and a few years later they told me they had made a mistake; they should have taken out the gall bladder. They took them out and I still had trouble. My results with the cases I have had operated on are not as good as the statistics. They still come back to me and give me trouble. Only in a very small percentage does the case hold out from the surgical procedure.

I think Dr. Danna hit the keynote when he said before you monkey with a gall bladder case let the gastro-intestinal man monkey with it. I am certainly not referring all my gall bladder cases to the surgeon any more because I find that I am getting better results from internal medical treatment, stimulating the liver, than I do from the surgery. Some of my cases I have operated on.

Dr. C. H. Mosely (Monroe): Gentlemen, we are all interested in this subject and the proper preparation that the gentlemen are speaking of

certainly appeals to people who know anything about liver function, chemical reactions and the calcium reaction of the blood. The proper preparation of a patient in the gall bladder condition sometimes means to let the condition alone.

In surgical debate in Chicago at one time one of the eminent surgeons of the world said, "Eighty per cent of the appendices will get well without operation." The immortal Murphy said: "Ninety-nine per cent of them will get well with an operation at the proper time." The same thing holds in gall bladder surgery. Appendicitis should be operated on immediately. We operate on too many gall bladders in the acute stage.

If a patient's temperature has returned to normal, the liver tenderness is getting better, the feces are taking on their normal appearance, the digestion is getting better, you are getting less amount of gas in regurgitation, it is better to let that patient go and operate some other time. However, you have patients who are on the downgrade. How do you know when they are doing that? Most anybody can tell. If the temperature is up, the gas and the cholemia is increasing and the color is dark, then it becomes an emergency operation. Gall bladder duct, a common duct that is permanently occluded, means emergency surgery. There are so many reasons sometimes that we can tell they are permanently occluded and then they must have emergency surgery.

Of course, everybody knows that the world now is looking to the ultra-microscope, as Dr. Mayo said, and the chemists have learned that you can make gold out of lead and that they can bombard nitrogen and make hydrogen.

If a person gets into the chemistry of the blood and the whys and wherefores of a lot of infections, he is startled and knows that no disease is anything but a manifestation of the warefare that is going on in the blood streams. Someone has said that all local infectious operations are gorilla warfare. A gall bladder might be just locally affected but when it gets into the blood stream it is a naval warfare and that is what takes us out.

Kidney function in any kind of infection must not be ignored. It holds just as true of gall bladder. The liver function in weighing the metabolic process of the body means just as much.

Dr. Emmett Irwin (New Orleans): Gentlemen, Dr. Gelpi is to be thanked for the presentation of this most wonderful paper. It represents a volume of work done in going through the various histories and gathering the data for the preparation of this paper.

It is certainly agreed that the mortality here presented in gall bladder surgery is due to a lack of careful pre-operative study and also a certain amount due to the lack of proper post-operative care of the patients.

In connection with the post-operative care, I might say that I have found something of value in the use of the duodenal tube used immediately following cholecystectomy. It is passed immediately upon the recovery of the patient from the anesthetic and after a little while one will begin to get back the clear bile which we know is coming from the liver itself. When the clear liver bile returns one knows that he has not, during the operation, tied off the common duct, and it allows the surgeon to go to sleep that night with a clear and unworried mind.

There is no doubt but what the anesthetic plays some part, for those patients who are operated upon under local or splanchnic anesthesia respond better post-operatively than those who received a general anesthetic.

I think Dr. Gelpi's paper should be to us a warning to study our cases more carefully pre-operatively, to watch them more thoroughly post-operatively and certainly guard against ruthless gall bladder surgery.

Dr. Gelpi (in closing): First of all, I want to express my gratitude for the extensive discussion.

As regards Dr. Danna's remark about the pre-operative study or "playing" by the medical man or gastro-enterologist, that is a point that we stressed without going into details. The important thing is not to play too long. That is really the point. Whether you call it "monkeying," as someone said, or "playing"—don't do it too long.

I am glad that Dr. Maes took occasion to lay stress again on the pre-operative study. You have to estimate your risk; if you don't you are going to shoot up your mortality inevitably. You can't get around that. Certain ones can stand so much; others can't. It is your business to find out just about how much the individual that you are working on now will stand and then go to it.

I don't feel that the analogy that Dr. Mosely has drawn between the chronic appendix and the gall bladder is correct throughout. I feel a little differently about the appendices. As a matter of fact, many times I remove the appendices because I am afraid not to do it. It is perfectly true that probably a lot of them would get well but I don't know which one is going to do so and which one isn't and a lot of time you remove the appendix because you are afraid of what *might* happen rather than because you see some definite path-

ology on the outside. In addition to that, as you go in you sometimes say: "Well, this is just a simple appendix," and you expect to come out in twenty minutes. Instead, you come out thoroughly exhausted many times after working an hour and a half. In other words, the conditions are not exactly the same in every instance.

Certainly in the handling of all gall bladder cases the question of judgment comes up all the time. You have to individualize in selecting your procedure and you can't go in and say positively ahead of time, "I am going to do this or that or the other thing."

By the way, Dr. Danna brought out a point that I should have mentioned in explanation of my figures here. The reason for the comparatively few cases of cholecystenterostomy was that we have had an enormous amount of material to handle and we simply grouped the material in two sections—the cases where the gall bladder was removed and the cases where it was not removed. So that the comparatively few cholecystenterostomies were included with the cholecystostomies. Undoubtedly at times it is a proccdure of wonderful value. Dr. Irwin's and Dr. Silverman's remarks are certainly timely and have definite value.

THE ASSOCIATION OF ACUTE AND CHRONIC INFECTIONS TO MENTAL DISEASE.*

L. R. BROWN, M. D.,

LITTLE ROCK, ARK.

It is with a profound degree of appreciation that I am enabled through the Chairman of this section to appear before this Society, a Society with which I was affiliated for several years and in which, though I am now in a neighboring State, I am still deeply interested. My years in this State were of the pleasantest of my recollections, and it is due in large part to the skill and fidelity of two of your members that I am still on God's footstool and able to participate in this meeting.

For a number of years preventive medicine has been the predominant feature of health and medical progress, the conservation of life and physiological resources taking precedent over all other sciences and arts. It has, however, been but a few short years that we have taken any thought of the hygienic necessities in conserving and protecting the finest of all the bodily functions, that of the mind. It was really necessary to await the story of "The mind that found itself" as it unwound its tale of sadness, incompetency and even negligence before the great leaders of psychiatric thought were led to take up preventive measures in any way. In the old school, there were two causes of mental breakdown, or rather there were two classifications into which the various symptoms and causative factors could be easily grouped, organic and functional, the former implying definite physical changes and pathology, the latter being purely psychic and with no pathological basis or results. However, in many of the so-called functional groups there were frequently observed symptoms suggestive of toxic background but with no appreciable temperature or fever characteristics. The patient would be dull, stolid, blunted in intellectual production, and in some instances apperception and consciousness were noticeably confused and clouded.

In 1876, observation was made by Savage, an English alienist, that several cases of acute mania suddenly recovered following the extraction of bad teeth, and Upton, a dentist in Cleveland, called attention to the relation of infected teeth to mental disorders. It has taken many centuries, however, to learn that there is a strong affinity between certain infectious conditions and the state of mind.

The age of mystery in medicine, especially as it concerns physical ills, is a thing of the past. There is no longer mystery and ignorance even among the laity as to the fundamental causes of disease. Nor should there be such in the realm of the mind. If there could be found tangible causes in even a small group of cases and these tangible factors could be subdued, or at least ameliorated, should we neglect such possibilities?

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*Read before the Mississippi State Medical Society, Jackson, May 12-14, 1926.

Have any of you never seen a typhoid fever case in delirium, the toxemia being too strong for the normal resistance to overcome, the same as to pneumonia, malaria, septicemia, even unto appendicitis?

It is self-evident then that there is a definite chain of mental symptoms following infection of any sort, especially of the pus organisms and highly infectious types, dependent upon three factors, the resistance of the patient, degree of temperature elevation and virulence of the infecting organisms.

It is very rare indeed that the primary lesion which causes the abnormal mental condition is found in the brain itself. There is, however, a direct action on the cerebral elements by the morbid agents carried directly through the circulation. There may result coarse and extensive lesions with resultant degenerative changes in the surrounding tissues, or fine, diffuse and frequently invisible lesions as a result of the action of various toxins. In certain types, as paresis for instance, there is destruction of the brain cells by the invasion of the micro-organisms, and this may too hold true with encephalitis lethargica. From the fact that spontaneous recovery occurs at times, it has been argued that the brain itself could not have been affected, but this can be proven otherwise, biochemically as well as clinically, in delirium tremens.

We have in general, therefore, the two propositions: First, where there is a direct infection in the nervous tissues extending into the brain, and secondly, where there is at least a bio-chemical reaction due to migrant toxins.

It is quite probable that the constitutional make-up of the individual may play its part as to what type of mental symptoms shall be exhibited, and if it later develops that the hypothesis of contagion is correct, one can almost prognosticate as to the future symptomatology of such cases, as breakdown mentally under the added stress of infection. The principal avenues of infection are in the digestive tract, with the teeth, tonsils, stomach, colon and mesenteric glands as of primary importance in seeking causative factors.

I can in this short time but touch the high spots in considering this subject. In examining the case records of several thousand patients, however, there can be found so many who are now in State Hospital, who with earlier treatment might have been saved. The age of prevention and treatment in mental diseaes is here, but the fact is not grasped by the general practitioner that there can be a possible cure and restoration in so many of these cases where delay has permitted a definite degeneration of nervous fibres or a loss of functionary power. Mental hygiene is but in its swaddling clothes and so far as the general public is concerned, is but a fad or fancy of a few zealots, but the fact of a mental breakdown following an attack of influenza, for instance, or typhoid fever or general septic states, is not considered of any importance. Every single case record which I have observed has followed a definite blood picture, rise in leucocytes and increase in polynorphonuclears, except in two diseases, typhoid fever and pellagra. One must also consider the involvement of infection in definite psychotic conditions which clouds the true picture and changes a good prognosis to a bad one. I am not a faddist—in thought I may assume that every case of mental disease is caused by a specific infection, but the longer I follow so many of these cases the more I am convinced that infection plays a much larger role than has hitherto been thought possible.

DISCUSSION.

Dr. J. M. Buchanan (Meridian): The doctor has given us a very interesting paper and one that should appeal strongly to you, because, as he says you are the first to see these cases. You know there is one trouble with physicians—I have heard so many say, "I don't know anything about nervous and mental diseases, and I don't

want to know." That is where you are wrong. There is nothing so mysterious about these troubles. All of you, whether you have studied psychiatry or not, have sense enough to know when you see a man beginning to fail, and that is the time you may be of benefit. As the doctor says, there is something—it might be a functional trouble, or it might be caused by worry or anxiety, but whenever you find what is playing havoc with him of course the best thing you can do is to get rid of the disturbing influence, change his environment, get him away from disturbing surroundings, give him a new outlook on life, as it were.

I do not know just exactly how you would prevent trouble that results from some infection, unless you take means to remove the source of infection as quickly as possible, before it has any very material degenerating effect upon the patient. That you can also help to do.

I agree with the doctor that in nearly all of these cases—and I hope some time we shall be able to say in all of them—there is something definite that causes the mental disturbance. At one time it was supposed that heredity played the greatest part in the development of mental disease. There is no question but that heredity does play an important part because we have seen too many cases in the same family. Formerly we always looked for taints of heredity to base an opinion, but it does not play such an important part now, excepting in feeblemindedness. That, barring accident, is nearly altogether hereditary, and that has been worked out with almost mathematical precision.

Then we had another idea—that physical ailments were the next greatest cause. There is no question but that we do have mental disturbances following ill health, especially infectious disease such as pneumonia, typhoid fever, scarlet fever, syphilis, chronic arthritis, influenza, and many other conditions. We also have it from poisoning, such as arsenic, lead, alcohol, and toxines of that kind. The brain and nerve cells after they have been subject to poisoning for a long time become infected, and as the doctor has said, once the nerve cells break down they cannot be restored. You may stop the disease process there and limit the mental disease, but the cells are not restored. That is one of the great troubles we have in syphilis.

The doctor did not touch one thing that I wish he had mentioned. I have seen chronic cases which would develop fever and the mind would clear up for a time. About twenty years ago a country doctor, who, by the way, was a very intelligent man, educated in France, had a daughter who had dementia praecox, and he asked me several times if I would not infect his daughter with some kind of fever, as he believed it would help her. I did not try it, but since then they are treating general paresis by infecting the patients with malaria. I have had no experience with that, and am not in position to tell you about the end results, but the people who have experimented with it say they have obtained some good results.

But these are the things that we are studying and trying to apply to mental disease. Of course one can understand where there is injury to the brain by syphilis. In any disease that will cause destruction of brain tissues we will have mental disturbance. That part is very well understood. And you might do a good deal in preventing that if you treat the case of syphilis properly, but don't let any one tell you that a few doses of salvarsan will cure syphilis. It will not do it. There is nothing to it as a cure. There is but one thing that will cure syphilis and that is some form of mercury. Of course, salvarsan will help, but it will not cure. I wish you would bear that in mind. Do not give your patient salvarsan and tell him he will be well.

Dr. H. H. Ramsey (Ellisville): I want to welcome any knowledge, any information which will help the medical profession to tear the mask from mental disease. I want to thank Doctor Brown for his splendid presentation of this special subject of focal infections as a cause of mental disease. From the standpoint of social economy there is no more important subject facing the people of this State or any other state, and we as medical advisors to the people of the State must handle this subject sooner or later for our people.

I enjoyed Doctor Brown's discussion of this subject because I realize there is merit in his discussion and in the theories that he lays down. The time has been when the average doctor—I expect I have done the same thing myself—has sent pellagra patients to the insane asylum as insane because he did not know the difference between a mental breakdown caused by pellagra and insanity itself. And other conditions might be cited which are just as true. I do not think however, that we should lose sight of the hereditary aspect of mental disease. We are too apt when we find focal infection to let the pendulum swing too far the other way and draw the conclusion that a majority of cases of mental disease may be due to some focal infection which we do not understand. Personally, I cannot get away from the hereditary aspect of mental disease in the main, and I would like to ask Dr. Brown in this connection with reference to the

action of focal infections in case of certain types of nervous conditions. You know we have certain people who have stable nervous systems; we have others who have unstable nervous systems. I would like to ask him in this connection the difference in the effect of the focal infections on these different types of nervous mechanism.

Dr. L. R. Brown (closing): I can agree with everything that both speakers have said. I hope no one will think that I am saying focal infection is the cause of insanity—quite the other way. But when we have 10 to 15 per cent. of cases coming to the State Hospitals showing definite focal infection I think it should be considered the same as the 10 to 15 per cent. that come in showing syphilis as the cause. This is just one of the many phases that appear to keep our hospitals overflowing—no room for any more. Perhaps some of you do not realize that there were over 270,000 insane patients in hospitals in the United States last year. And it is only a few years ago when the cost of maintaining the insane institutions of the United States was eighteen times the cost of maintaining institutions for tuberculosis. It is a serious economic problem.

There is another point that I did not bring out, and that is that nearly every case that comes to the hospital has some pathology. When the physical examination and laboratory work has been thorough, nearly every case will show some pathology. That may mean something to you or it may not. That is probably true in general practice.

In the matter of intercurrent diseases clearing up mental disease, we have had that experience a number of times, especially in the acutely excited case. That may work exactly as the malaria treatment on paresis is supposed to work. The toxin of the intercurrent infection acts as an antitoxin to the toxin of the mental disease. You may take that for what it is worth. I do not know. But that idea has been considered, because a great many of these cases that do clear up have a recurrence afterwards. Another thing, we have had a case clear up after a broken leg, and there was no infection there, so that breaks down the hypothesis of toxin anti-toxin. I do not know the reason.

In regard to the individuals with stable and unstable constitutions, those with unstable constitutions cannot withstand or resist infection as well as those with stable constitution, and if there is anything in the old axiom that infection or disease will hit the weakest part, then the infection, or the toxin of the infection, will hit the weakest part, which in the unstable individual is the nervous system.

Every case of mental disease is a law unto itself. I think anybody who has had any experience in that work will say that. No case is classical. Each case presents certain features which no other case presents. I am simply trying to present the possibilities of prevention in the matter of infective agents. I thank you most cordially for your attention. It has been an extreme pleasure for me to get back to Mississippi.

THE CONSERVATIVE METHOD OF TREATING ECLAMPSIA, WITH SPECIAL REFERENCE TO THE STROGANOFF TECHNIQUE.*

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NEW ORLEANS.

In April, 1925, in a paper read before the Louisiana State Medical Society,(1) I reported eight cases of eclampsia which I had treated along conservative lines. In a paper previously published,(2) I had reported six of these patients. Since the reading of the second paper, I have treated in a similar manner seventeen additional cases, and I desire to supplement these preliminary reports by this communication.

Conservative measures, as opposed to radical operative procedures, have resulted in a lowering of the maternal mortality with little or no increase in the fetal death rate, whenever these measures have been carefully employed in accordance with the technics advocated by the proponents of the various methods. At least three lines of treatment have been advocated, each one of which has for its object the control of the convulsions with little or no operative interference.

Stroganoff insists that what he terms "the improved prophylactic method" is the best treatment for eclampsia, and he re-

*Read before the Orleans Parish Medical Society, October 11th, 1926.

ports in his latest paper[3] a series of 300 cases with eight deaths, a maternal mortality rate of 2.6%. Of these eight, four were moribund on admission, and died in from three to eight hours. One patient was not given the full treatment, as no chloral hydrate was available (she had also had both legs amputated as the result of an accident). Two patients with mild eclampsia died of pneumonia and sepsis. In the eighth patient it was impossible to control the convulsions, and in the tenth and eleventh seizures she developed apoplexy and died. He denies that his cases have been especially mild, or that many of them have really been nephritic patients; these points have been raised by some as possible explanations of his results. In 1918 Stroganoff[3] collected from the literature 2208 cases treated conservatively in various clinics which he designated as "the old method and its variations," with a total maternal mortality of 9.8%. In this recent paper[3] (published in June, 1926), he states that since March, 1925, he has treated twenty-five cases, partly by personal attendance and partly by telephone consultation. All recovered. This record is set forth as a contrast to the mortality rate of one in six, which previously obtained in the hospital in which he cared for twenty-one of these patients. Stroganoff relies chiefly on morphine and chloral. The details of his treatment will be given later.

In the Rotunda Hospital of Dublin a different method is employed, dependence being placed chiefly on starvation and eliminative measures. The stomach is washed, and the colon is flushed at regular intervals with large quantities of a sodium bicarbonate solution. Great stress is laid upon this flushing, and Fitzgibbon and others writing from this clinic give detailed directions for its proper performance. Drugs are little used; for example, in the last report from this hospital,[5] I note that in twelve cases of eclampsia treated in the year covered by said report only one patient received morphine. In previous years, morphine was more frequently employed. The patient is kept on her side, and an attendant keeps the throat and mouth carefully sponged free of the mucus that accumulates. These writers claim that many patients die as a result of the aspiration of this mucus; that is, they are practically drowned in their own secretions. Solomons,[4] in 1922, reported from this clinic a maternal death rate of 10.29% in 204 cases. Of the twelve cases mentioned in the latest report,[5] two died, a mortality rate of 16.6%.

Lazard,[6] in 1925, reported a series of 20 cases of eclampsia treated at the Los Angeles General Hospital by the intravenous administration of magnesium sulphate. Others have taken up this treatment, and in July, 1926, Lazard, Irwin, and Vruwink,[7] reported the results obtained in the treatment of 103 cases by this method as employed by themselves and others, chiefly in and around Los Angeles. There were 14 maternal deaths, giving a mortality rate of 13.6%. After deducting 5 deaths for various reasons, they obtain a net mortality of 9 deaths in 98 cases. The method is being employed by others in various parts of the country, and in the course of a trip to some northern and eastern clinics in May of this year, I found that many leading obstetricians are quite enthusiastic about it. The essential factor in the treatment is the intravenous injection of 20 cc. of a 10% solution of magnesium sulphate as soon as possible after the first convulsion. This injection is repeated hourly until the convulsions are controlled. Additional measures, such as lavage, phlebotomy, hot packs, etc., have been discarded. The patient is disturbed as little as possible, and oxygen is given after each convulsion. Gas is used for the labor, and low forceps or version are employed frequently.

In the Charity Hospital of this city, in the years 1919-1924, inclusive, 62 patients suffering from eclampsia were treated by various operative measures, the aim being

rapid delivery, with 24 maternal deaths, a mortality rate of 38.8%. Dissatisfied with these results, I decided to try conservative measures. My first attempts were conducted along rather haphazard lines, for which Stroganoff has rightly taken me to task,[3] but the results were most encouraging. I have subsequently systematized my technic, leaning toward the Stroganoff method. I am now satisfied that he is right in insisting that the best results are obtained by employing the method exactly as outlined by him, and that modifications lessen the effectiveness of the treatment. I am at present using his method as given by him in the Lancet (1924),[8] except that I have not used chloroform to control the convulsions and to eliminate the irritation of manipulations, such as catheterization, etc. I expect to do this in the future, however, in order to follow out his technic in every detail. I may add that I have had no experience with the Dublin method nor with the magnesium sulphate treatment.

Stroganoff's directions are as follows:

(1) Absolute quiet, with a minimum of examinations and manipulations. As little light as possible.

(2) Morphia, gr. ¼, hypodermatically, on admission.

(3) One hour later, chloral hydrate, 2 gm. (30 grains), in 100 cc. of milk by mouth, or in milk and normal salt solution, 100 cc. each, by rectum if unconscious.

(4) Three hours from the beginning of treatment, morphia gr. 1/6 to 1/3, generally gr. ¼, hypodermatically.

(5) Seven hours from the beginning of treatment, chloral hydrate, 2 gm. (30 grains), by mouth or by rectum, as above.

(6) Thirteen hours from the beginning of treatment, chloral hydrate, gm. 1 (15 grains) to gm. 2 (30 grains), generally gm. 1.5 (22 grains), orally or rectally.

(7) Twenty-one hours from the beginning of treatment, chloral hydrate as under (6), generally using gm. 1.5 (22 grains).

The dosage is increased in severe eclampsia in strong patients, and is disminished in the mild form. At first, chloroform, 10 to 20 minims, is given by inhalation if convulsions appear imminent. It is also given for any manipulations, such as vaginal examination, catheterization, etc. On the second day undelivered patients receive gm. 1 (15 grains) to gm. 1.5 (22 grains) of chloral hydrate three times a day. If there are no convulsions for 14 hours, and the patient is in good condition, the dose may be diminished. If the convulsions recur two or three times in quick succession, if the patient had had six or more before admission, or even one in a severe case, 400 cc. of blood are removed by venesection. This venesection is not done if delivery is expected within one or two hours. He objects to the intravenous injection of saline or glucose solution. As soon as the patient can be delivered without harm to herself or to the child, this is done, either with forceps, by extraction in breech cases, or rarely, by version. In the absence of contraindictions, the membranes are ruptured when the os is two fingers dilated in multiparae and three fingers dilated in primiparae. The patient is kept warm, and hot tea diluted with milk is given; in case she is unconscious, 1000 cc. each of milk and normal salt solution are given by rectum per day. Oxygen is given after each convulsion, and plenty of fresh air is essential. If she is unconscious she is kept chiefly on the right side (Stroganoff thinks that this position takes the strain off the heart), and vomited matter, mucus, and blood are sponged from the mouth when necessary. I might add that he protests against the failure to use chloroform for the convulsions in comatose patients. If the pulse is 110 or over, digitalis is given, and at times camphor or caffeine. The patient is not purged, the stomach is not washed, nor are enemata or flushes administered.

I have treated 25 patients suffering from eclampsia along these lines. Of these, 14 were antepartum, 9 were intrapartum, and two were postpartum cases. There were two maternal deaths, both in the antepartum group, a mortality rate of 8%. However, in both instances the convulsions were controlled by the treatment. One patient recovered from the eclampsia, but died two weeks later from septicemia, probably traceable to an error in our technic, or to the excessive vaginal manipulations necessary on account of a slow and difficult delivery. The other patient was really suffering from advanced chronic nephritis, rather than from true eclampsia. She had a phenolsulphonphthalein test of 0%, suppression of urine which was finally relieved by the use of novasurol, and a nonprotein nitrogen blood content of 264 mg. per 100 cc. shortly before death. After recovering from the convulsions and from the anuria she developed bronchopneumonia which proved fatal. These 25 patients were as ill as others admitted in previous years, as is evidenced by the fact that most of them had from three to eight convulsions (two had only one each), one had 13, one had 15, and one 16; the latter was the nephritic patient dying of bronchopneumonia. The systolic blood pressures varied between 150 and 210, and the usual urinary and blood chemistry findings were noted.

As regards the babies, it is to be noted that eleven were premature and stillborn, many of these being dead on admission and macerated at delivery. The weights of these infants varied between 2¾ and 5 pounds, 2 ounces. Two full term babies were recorded as being dead in utero on admission; another full time baby was macerated when delivered three days after admission of the mother, though the record fails to note the presence or absence of fetal heart tones at the first examination or subsequently. Two babies were delivered prior to admission before the mothers delivered eclampsia; one was stillborn after a forceps delivery; the fate of the other was not stated on the mother's record. The nine babies that were living and at or near term when the mothers were admitted were all delivered alive, and left the hospital in good condition. Thus, with nine babies alives and fifteen stillborn (the fate of one not being known), we have a fetal mortality of 62.5%, which is to be charged against the disease rather than against the treatment. Remember that eleven of the fifteen dead babies were premature, and that three of the other four were recorded as dead when the mothers were admitted.

The mortality rate of 38.8%, mentioned above, corresponds fairly well with the maternal death rate following radical measures as reported from other clinics. Thus Williams[9] records a mortality rate of 24.7% in 85 ante- and intrapartum cases thus treated. Ross McPherson,[10] in 1909, reported a series of 250 cases with a maternal death rate of 30.8%. DeLee, in the 1921 revision of his textbook,[11] states that the maternal mortality is from 20 to 45%. Cesarean section particularly has been weighed in the balance and found wanting, despite the fact that a few men particularly skilled in the selection of cases and in operative technic still employ it occasionally. Thus, it has been resorted to in 15 out of 78 cases of eclampsia at the Chicago Lying-In Hospital,[12] with a maternal mortality of 6.7%, which is much lower than the average for this operation in eclampsia. Peterson, in his masterly review of the employment of this operation in eclampsia,[13] found a maternal mortality of 25.79% in those patients operated upon since 1913. His report was based upon a study of 500 cases operated upon by 259 different surgeons. In the Charity Hospital, in the 69 cases treated by this method, the series dating back for several years, the maternal mortality was 36.23%. Contrast with these figures the maternal mortality rates following the use of conservative measures: 9% for the magnesium sulphate treatment; 10.29% for the Dublin method, 2.6% for Stroganoff's personal

series of 300 cases, and 8% for my small series. Comment seems unnecessary. I feel confident that if the Stroganoff treatment is employed exactly according to his directions, his results can be duplicated, but this will not be the case unless we follow his technic. It may be that equally good results can be obtained by the use of the Dublin method, or by the employment of magnesium sulphate intravenously, particularly after refinements of technic are developed during the management of hundreds of cases. This point remains to be determined.

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DISCUSSION.

Dr. Walter Levy: I think nearly everyone doing obstetrics will agree upon the conservative treatment of eclampsia and particularly the Stroganoff treatment. However, I do not believe that any of these follow one line of treatment all the time, but lean to the conservative treatment in the vast majority of cases.

I have worked with glucose and insulin and had excellent results. In an article recently published in the Surgery, Gynecology and Obstetrics, I think I have shown that in pre-eclamptic toxemia and eclampsia there is a co-existing acidosis. In these particular cases I have found CO^2 combining power low, the blood sugar low, and in a fair number of these acetone in the urine.

We know that pre-eclamptic patients and those suffering from eclampsia succumb to shock and sepsis easily. This in itself is one of the strong arguments in favor of the conservative treatment and against the use of Cesarean section.

As regards the use of glucose and insulin in these very cases and its being of value in the treatment of shock, Dr. Macheca and myself reported a case of shock superimposed upon hemorrhage which yielded to glucose and insulin, and since that time I had six cases of shock, four of which followed hemorrhage. Many more cases of pre-eclamptic toxemia and eclampsia yielded to glucose and insulin, and at present at Touro we make use of the conservative plan of treatment plus glucose and insulin in treating our eclamptic patients.

Dr. J. Birney Guthrie: It might seem presumptious for an internist to discuss this subject of treatment of puerperal eclampsia. However, I have seen many cases and I think I was the first one here in the medical fraternity to advocate the use of glucose and insulin in this condition. Since then it has come to be an established procedure. I do not believe we are justified in using glucose intravenously unless the proportionate dose of insulin is given. I saw in the last 60 days a patient very sick to whom glucose had been given by intravenous drip without the insulin. In this case that had 4,000 cc. of 5% glucose in vein every 24 hours for 5 days the drip method associated with 40 units of insulin in 4 doses given in the drip, the blood sugar ranged about 160. By intravenous methods of that sort without insulin we are transforming the patient for the time being into a diabetic. I do not believe we are justified in rendering a patient hyperglycemic whose resistance is already under a strain. We do not know the cause of eclampsia. It is a series of convulsions brought on by some sort of disturbance and I am not here to discuss the question of the etiology or treatment, but a convulsion is a convulsion no matter where its manifestations occur. It is like fibrillation in the heart muscle. A great storm is going on in the brain analagous to what we see as the result of intensive stimulation of the heart muscle. In the heart muscle we raise the threshold reaction with a specific and the convulsion ceases. In general convulsions, we have many drugs. Of these, morphine is the least desirable. I do not approve of the morphine-chloral treatment.

In my hands the old bromide and chloral serves better and does not mask some of the valuable guides, notably the pupils. Of late, following the teachings of those who have the management of large numbers of epileptics, I finds that luminal is perhaps the best drug. It can be given in the sodium combination, by needle, in 2 grain doses, and repeated for effect.

Dr. E. L. King (closing): We used glucose and insulin along with the Stroganoff method in a fair number of cases but I do not know that we had

any better results. I do not think we did. Stroganoff brings out the point that any irritation will precipitate convulsions. We had one case where the intravenous administration of glucose started a convulsion. We stopped the glucose and the convulsion ceased. We let the patient alone and gave a colonic lavage 2 or 3 hours later. She had another convulsion. Any manipulation is liable to precipitate a convulsion.

Regarding the time of induction of labor in eclampsia, I feel that it is best to let the patient alone; let her get over the eclamptic attack. Then labor can be induced, if necessary. However, the family usually wants something done at once, and at times it is hard to convince them that we are doing the correct thing. Of course we do not know the agents causing the convulsions. We do not know where the toxin originates. We simply know that we have this toxemia associated with the latter half of pregnancy. Martin Fisher, professor of physiology, University of Cincinnati, who has written a good deal on nephritis, in a conversation with me several years ago, stated that his idea is that the convulsions are due to cerebral edema. He believes magnesium sulphate intravenously would dehydrate the brain.

About the use of morphine—we only use two ¼ grain doses of morphine three hours apart. Stroganoff seems to rely chiefly on chloral. Whether luminal could be used instead chloral would have to be worked out.

The primary object of this treatment and all other conservative lines of treatment is the control of the convulsions. Let the patient alone as much as possible. Manipulations, examinations, etc., are all liable to precipitate convulsions.

A DOUBLE PNEUMATIC MASTOID.*

GEORGE E. ADKINS, M. D.,

JACKSON, MISS.

I take the liberty of presenting this in the form of a case report for the following reasons:

First—That a pneumatic mastoid may be to the minds of some, of doubtful occurrence (and I confess that I am a recent convert), for to me a non-infectious mastoid was most unthought of and of doubted existence.

Second—because most of you would very likely refuse to make the diagnosis at the first visit—just as I did.

According to a definition of inflammation of the case that I shall report might be classed as a mastoiditis, but according to the common way of thinking of inflammation (always attended by an infection) it might be classed as a mastoidalgia, for certainly the cardinal symptoms of inflammation (calor, rubor, dolor, tumor and functio-pervertis) were all present in the case, but minus the infection.

E. McD., age 11 years.

Brought to me for a swollen and painful right ear, with a history of frequent painful attacks accompanied by swelling and tenderness over the mastoid portion.

There was no history of earache and no discharge. The external markings were those of a typical mastoiditis, swollen, very tender to direct pressure over the mastoid bone with slight redness.

There was no tenderness of the auricle, and inspection of the canal and membrane-tympani showed an uninflamed canal and a normal drum head. I agreed with the family that the case presented marked signs of an acute mastoid, but that I could not call it such or operate without some signs of a middle ear involvement. They immediately informed me that they had been told just this by another physician on two occasions. This made me cling even harder to my decision, for I have all confidence in the physician quoted.

With the application of ice cap and moderate purgation the condition subsided greatly for a few weeks—only to repeat the cycle, when the ice cap was prescribed again. The condition slowly subsided again to return a few weeks later.

At the third visit I suggested opening the mastoid, the family physician thought well of it, and the mastoid was opened.

On unroofing the mastoid only large clean cells were found. The antrum was clean, and with slight pressure a soft probe was passed into the middle ear. The mastoid was closed without drainage, because there was no infection.

Feeling that I had done no good, and the child being in good condition I decided to remove the tonsils and adenoids. This was done and a rapid recovery followed, the patient leaving the hospi-

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*Read before the Mississippi State Medical Association, Jackson, May 11-13, 1926.

tal on the third day. The patient has not had a recurrence of the trouble on this side.

About two years later the patient was brought back to me with the same condition on the left side. Again I could not be convinced of the necessity of an operation, and let them return home. A few days later I was called by the physician and told that the child was in great pain, and that he thought the mastoid should be opened.

The child was sent to the hospital and the left mastoid opened under the same conditions for which the right was opened just two years before. The findings were the same and the results equally as satisfactory, from the standpoint of recovery and complete relief of the condition.

Thus justifying the diagnosis of a Double Pneumatic non-Infectious Mastoidalgia.

DISCUSSION.

Dr. E. L. Wilkins: I am frank to confess I didn't know there was such a thing, and I couldn't find anything in my library on such a thing, and everybody I asked said, "I don't know what it is." I am glad to hear Doctor Adkins tell about it, and it is very interesting to know we might have a case of that kind; it might give some of us a chance to do more mastoids.

A short while ago I saw a case that had been sent by a general physician, and a good man, that had some swelling along in here, indicating point below ear, behind angle of jaw, no ear trouble or involvement that could be seen. I wasn't able when I saw it to make a diagnosis, because the ear was perfectly normal, except the swelling, extending from here, angle of jaw, up above the level of the ear and above the mastoid; so, I wasn't able to make the diagnosis and sent him to Memphis, and when he got there and fell into Doctor Howard's hands, Dr. Howard had some three or four x-rays before he could make the diagnosis, and then found a very extensive mastoiditis, with no ear involvement. The patient had had an acute suppuration on the right side, this being on the left, and had had acute tonsillitis, but absolutely no indication from the left mastoid, except the external swelling.

Doctor E. F. Howard: I had two similar cases. The first one was about five years ago. I refused at first to operate on the case, and was told by the general surgeon, whose patient he was, that if I didn't operate on him, he would. That is a mighty poor reason for operating, but I figured that I would probably do less harm; I might have sense enough to know when to stop, and he might not. So, in the interest of humanity, and especially as it was a charity case, and I could not be accused of operating for money, I went into the operation. The results were about as the doctor has given. A little later the tonsils were removed, and we haven't had a recurrence on the other side.

Within the past thirty days there turned up another case that was first operated on in New York. I don't know, of course, the particulars of that operation. But there had been no middle ear suppuration. She made a very prompt recovery, but she has an awfully nasty scar. About eight or nine months after that operation she developed an inflammation, as described, in the other mastoid. The canal was perfect—normal; the ear perfect; but there was so much inflammation there that the pinna stuck out straight from the side of the head, as you are accustomed to see in a well-developed mastoid. I couldn't bring myself to operate on that case. She was a little thing, and I put her to bed with a purgation and ice-pack, and in forty-eight hours she was well. That was probably taking long chances as the family and a general surgeon, who was the same man in charge of the other case I saw, were yelling for operation. I think her blood count was the first day something like 18,000; it dropped to 10,000 in twenty-four hours. There was certainly no question of that mastoid, and no indication I could find anywhere, except a little swelling and pain. This kid hasn't been operated on yet.

Chairman McWilliams: There is one point I would like to discuss in connection with that paper just briefly, and tell a little experience I had with a mastoid, something like this: A patient had an abscessed ear but complained of pain, behind her ear, right over the mastoid, in the same region you get with a reflex pain. We had an x-ray of the mastoid, and at the same time found a badly infected wisdom tooth. I had that removed, but it seemed when removing the wisdom tooth we had a little infection of the second molar, and all of the lower jaw was sore, and she still complained of this pain in the mastoid. In the meantime, and after we had the third molar removed, I did a mastoid and found an almost healed mastoid, no pus, but some conditions in there you would expect from a normal healed mastoid of about two weeks duration. I contend that pain in the mastoid was a reflect from that third molar, and the molar was due to the infection of the second molar from the removal of the wisdom tooth. I suggest you rule out reflex pain from teeth before you do a mastoid, because there are so many things that will give you reflex pain in the mastoid.

Doctor Anderson: I would like to ask Doctor Adkins if an x-ray picture was made.

Doctor Adkins: There was no pathological condition there, doctor, when we opened it.

Doctor Anderson: Would the x-ray have shown anything but an ordinary mastoid?

Doctor Adkins: That's all it could show.

Doctor Arnold: Did you say there was external swelling?

Doctor Adkins: Yes, external swelling.

Doctor Arnold: I wonder if that could have been something akin to these sinus headaches. I can't afford any explanation for the condition aside from that.

Dr. George E. Adkins: This child was only eleven years old; consequently the last molar couldn't have been playing much part at eleven years old. There was literally no infection. Most of the cases spoken of have been cases spoken of as having had trouble; this child had no trouble, except pain for a long time, and that was followed by swelling. There was no external otitis. The minute you touched down over the mastoid which was swollen it hurt her, and hurt badly. This would subside in a few hours; it would pass off and in a few days would come back, and she would suffer awfully, as she did —maybe as bad as if she had an infected mastoid; the ear drum perfectly good, tonsils not bad. I said in my paper I took the tonsils out after I did the mastoid, because I felt I had done no good, and I wouldn't throw off on her completely. I didn't expect to do any good in the world, but we never had any more trouble with the mastoid. The cells were perfectly clean. We didn't have the slightest pain afterwards, and two years later it came in on the other side, and the same physician who had been through this thing—understand this child had been sent home six times; six times they had wanted something done and it had been refused, four times by me and two by another man we all have respect for —he is good; followed by recurrence every time. Two years after the first mastoid the other one occurred and we opened it under the same conditions; it was perfectly dry and healthy, and we probed through the middle ear; and it hasn't returned in the last two years. The child had no history of any ear trouble.

THE AUDIOMETER IN HEARING TESTS.*

ARTHUR I. WEIL, M. D.,
NEW ORLEANS.

The few words that I am going to say tonight can in no sense of the word be considered a scientific paper. I just want to, in a very short, informal talk, tell you a little about the audiometer and what it does for us.

I am sure that men who are devoting their time, more or less to general work, have little interest or enthusiasm for these special methods of examination, and yet I feel that it would be worth a little of their time to hear something about the audiometer and how it helps in making diagnoses, classifying diseases, and estimating prognosis. In this way, it assists considerably in the treatment and the general estimation of our hard-of-hearing cases.

We are living in an age of precision. In all the various sciences—in engineering, architecture, surveying, and astronomy—a constant effort has been made to perfect instruments of precision, and it is these instruments which have brought these sciences to their present state of perfection. The instrument I am about to describe is an instrument of precision in otology, comparable to similar advances in other sciences.

Now, up to the past few years, our method of determining just what a patient's hearing was, had been very crude and unsatisfactory. We have had the several tests, with the watch, the whisper, and the acumeter to determine in a very rough way the quantitative hearing of the patient, and the tuning fork and Galton whistle to estimate crudely the qualitative hearing, that is, the relative perception of the high and low notes, and just what part of the scale was best heard by the patient. But these tests we have known for a long time were very unsatisfactory indeed, and efforts have

*Read before the Orleans Parish Medical Society, October 25th, 1926.

been made by different men in various ways to standardize and improve these tests so that they could be used for comparison and for the more definite determination of a patient's hearing, and, in this way, make possible the estimation of whether a patient's deafness was progressing or was responding to treatment, etc.

Different men have made several attempts, for instance, placing the watch and the acumeter on a measuring rule to determine at what distance they could be heard; and the stopwatch in connection with the tuning fork to determine the length of time the tones could be heard. All these attempts, however, have been far from satisfactory.

In the past few years, Dean of Iowa City, and others, have devised an electrical vibrating apparatus known as the "audiometer," which has in a large measure fulfilled our requirements in this respect. The Western Electric Company, with the aid of their hearing experts, have developed the audiometer we are at present using.

I am sorry that I have not been able to bring the instrument here for your inspection, as it is as present in New York being repaired. It is, moreover, a very heavy, complicated piece of apparatus, which does not lend itself readily to transportation. It will be sufficient, therefore, to describe in a general way what the audiometer is like and what it does.

By means of vacuum tubes and electric currents, somewhat similar in principle to the radio, it has been possible to set up auditory vibrations from the lowest to the highest, varying in the larger apparatus from sixteen double vibrations to thirty-two thousand double vibrations per second. These tones can be produced at will, and then, by means of a turning-screw, somewhat similar to a rheostat, the intensity of these sounds can be increased from nothing to very loud, so that they can be heard except by those who have complete loss of perception of the various notes.

A method also has been devised whereby the result of the examination can be permanently recorded on a chart somewhat similar to the field of vision chart used by the ophthalmologist, the hearing of each ear being recorded separately, and the whole chart being retained as a permanent record. Such a chart we call an audiogram.

I will pass around some of these cards for your inspection, showing how the hearing of each ear is recorded, both quantitative and qualitative, and in some cases a second chart of the same patient taken several months later is shown, demonstrating the comparative ease with which successive examinations by the same man or by different men can be compared.

The advantage of this method of hearing test is obvious. In the first place, we can test a patient's hearing and if that patient later goes to another city to another doctor who has such an instrument in his possession, he can make similar tests and compare his results with mine that might have been made a year or two years before, and by means of this instrument will be able to determine if the patient's deafness is progressing, if it is stationary, or if it is improving. This possibility of standardization and comparison constitute an advantage which can readily be understood.

The second merit of this method is the possibility of making an accurate qualitative hearing test, comparing the low notes, the middle scale, and the high notes, and any defects in the scale which may exist. This is of considerable importance to us in determining the character of the patient's deafness, that is, if it is a middle ear or catarrhal deafness, or if it is an internal ear or central nerve deafness; for those who suffer from a middle ear or catarrhal deafness usually have a diminution of low note perception, while the central nerve or internal ear deafness is characterized by diminution of the high note perception or some hiatus in the musical scale. In this way it is possible to estimate more accu-

rately the character of the patient's disease, which guides us not only in the character of the treatment which for the two diseases is very dissimilar—the treatment of the middle ear deafness being more or less local, while that of the second class can be treated chiefly only by finding and removing certain forms of toxemia or focal infection, but, also, it assists us in making a prognosis, for it is well known that the prognosis in middle ear deafness, with the exception of otosclerosis, is much better than that of the internal ear deafness.

The third advantage, as stated above, is the possibility of comparison, thus determining whether a patient's hearing is improving under treatment or whether the treatment is not producing results. The possibility of thus controlling and checking up on the result of treatment is of great assistance to us in determining whether it is advisable to continue the treatment or not. For instance, if a patient comes to you with the hearing diminished, for example, about fifty percent, and you make an audiogram on this patient, after several weeks or months of treatment this audiogram can be repeated and you have then a more definite, obvious indication whether the treatment is doing good—whether the patient's hearing is at a stand still, or whether, in spite of all treatment, deafness is progressing.

To recapitulate, the advantage of the audiometer are as follows:

1. Standardized tests whereby one man's examination can be compared to another man's made later, possibly in a distant city. This was impossible under the old methods of examination.

2. The testing out of a patient's qualitative hearing, estimation of his comparative perception of the notes from the highest to the lowest, in determining the diagnosis of what form of deafness exists.

3. The possibility of subjecting the patient to repeated tests, estimating whether the hearing is improving or retrograding, thus giving as a check on the success of our treatment and in aiding as materially in giving a prognosis to the patient.

DISCUSSION.

Dr. H. L. Kearney (New Orleans): The principal interest the otologist and his patient will have in the audiometer is from the practical aspect. After the audiogram has been made, how will it help in the individual problem of deafness? It fills the long felt want of an accurate quantitative test of hearing. Probably the most primitive test of hearing is the voice. When carefully conducted it has been a fairly practical test, but it can't be standardized. Also, the sounds of certain letters are heard normally at greater distances than others. Vowels carry best. Consonants vary tremendously in carrying power. On a scale of 100, the consonant T has a value of 100. It carries well. When I whisper T, you can probably hear it in the back of the hall. On the other hand, M carries very poorly and has a value of 9. When I whisper M you must read my lips to understand me. Another old, but not very reliable quantitative test of hearing is the watch. Here is a watch that I can hear tick at a distance no greater than 18 inches. On the other hand, I can hear this watch at a distance of many feet.

The audiometer does away with the uncertain loudness of the sound used in the quantitative estimation of the acuity of hearing and gives us the ability to plot an audiogram that will mean as much to some one else as it does to the man who made it. Perhaps it will enable us to discern evidences of beginning deafness that would not be discernible otherwise.

If careful hearing tests were conducted on all school children we could be of assistance to those little fellows who are handicapped in their struggle for education by the odds of deafness. Hearing defects could be recognized years before they would become noticeable to the child or its parents and could be recognized at a time when treatment would perhaps arrest the progress of the deafness, whereas, when deafness is established, it is all too often hopeless.

Knudsen and Jones of Los Angeles have offered a plan for the group testing of children by means of a modified Western Electric audiometer that seems very practical. In their plan about 50 children could be carefully examined in one hour. Probably in the public schools of New Orleans there are at least 3000 children suffering from more or less pronounced hearing defects, the timely treatment of which would be of great value.

THE MANAGEMENT AND TREATMENT OF PULMONARY TUBERCULOSIS.*

CHARLES R. GOWEN, M. D.,
SHREVEPORT, LA.

So much has been written in the past few years about the diagnosis of tuberculosis that I feel it is timely to follow this up and to discuss its management and treatment, because, after the diagnosis has been established, the real task, that of preventing the spread of the disease, and of restoring the patient to normal life, has only begun. Within the past thirty years the management and treatment of pulmonary tuberculosis has greatly changed, and has been put on a rational and more or less scientific basis.

A brief history of the treatment of tuberculosis as far back as a century before Christ may be of some interest here. At that time the Chinese recognized a disease which undoubtedly was pulmonary phthisis and they attempted a paliative treatment with licorice, almond, barley and peach kernels. The most rational line of treatment used in ancient times was by the Greeks. In the chronic cases they used relative rest, a rich diet of easily digested food, moderate exercise in some cases, and occasionally a change of climate. By this brief glimpse into the past, it is brought home to us that one of the greatest problems of medicine through the ages has been the successful management and treatment of pulmonary tuberculosis.

It was Hermann Brehmer in Silesia, Prussia, in 1853, his pupil, Peter Dettweiler, in 1874, and our own Dr. Trudeau, who proved the real value of complete rest. It was these three men who satisfactorily demonstrated that—given absolute rest over a sufficiently prolonged period of time—a tuberculous lesion in the lung will heal. It was they also who found that the most successful plan of carrying out this treatment of prolonged and systematic rest was by grouping the patients in colonies or sanatoria.

The keynote of treating tuberculosis is a thorough knowledge of the pathology of the chest. Directing the patient successfully in each successive stage of the disease rests wholly on this knowledge. With a knowledge of the pathology of the chest one is able to make a correct deduction from the following indicators: the fever thermometer, the pulse rate, respiratory rate, cough and expectoration, the stethoscope, and the X-ray findings. The routine which a physician prescribes for his patient depends day by day on these indicators.

Always first and foremost comes rest. Temperature over 100 degrees during any part of the twenty-four hour period means absolute rest in bed, regardless of the amount of pathology in the lung. This rest should be continued for at least twenty to thirty days after the temperature has returned to normal limits. A persistent pulse rate over 85 for a man and 95 for a woman also indicates rest in bed. A continued cough yields readily to rest, and expectoration is also lessened. When the stethoscope and X-ray tell that the involvement is extensive and active, the only possible chance to stop the spread of the disease and heal the lesion is rest.

When I use the term rest I mean that the patient remains in bed twenty-four hours a day. The necessary functions of toilet and bath are performed in bed. As the symptoms subside this absolute rest is gradually broken. The first privileges granted a patient are those of toilet and bath. When these first cautious privileges do not increase symptoms the patient may sit up once a day in a comfortable chair for from fifteen to thirty minutes. As his condition warrants the rest periods are more and more broken.

When the temperature and pulse have been within the normal limits for a few

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weeks and all the other symptoms and physical signs are definitely retrogressing, the patient may be allowed to dress and go to breakfast. I prefer starting with the morning meal because all the body tissues have had a thorough rest. If this amount of exercise causes no increase of symptoms within a week or ten days the patient may be allowed to dress and go to the noon meal, and in like manner the exercise may be increased to the third meal.

Of increasing importance at this stage of the treatment are the periods of absolute rest in bed between meals. This means that the patient must undress after each meal and go to bed for a period of from two to two and one-half hours in the morning and two and one-half to three hours in the afternoon, with no talking, visiting, reading or writing,—nothing but absolute rest.

Recurrence of active symptoms always demands a return to rest, discouraging as this may often be. It is too much to expect a complete recovery without some periods of exacerbations of the disease. At any stage these may occur and the gradual process must be repeated.

As essential as physical rest is, so also is peace of mind and freedom from worry. To maintain this, occupational therapy and vocational training have come to occupy a most important place in the treatment of tuberculosis.

This scheme of gradually increasing exercise may be begun in bed with reading or mild study or with occupations which demand only the minimum movements of the hands, such as knitting, beadwork, or other light forms of handicraft. As the patient is gradually allowed up for longer periods this occupational therapy is cautiously increased to the various types of shop work.

The first form of outdoor exercise prescribed is walking. It is begun with a short walk of possibly one-eighth of a mile once a day. This is increased only as the general condition and strength improve and no untoward symptoms develop. These walks are finally increased to as much as four and five miles a day.

Diet and nutrition are most important factors in the treatment of tuberculosis. Forced feedings as frequently practiced cannot be too emphatically condemned. The days of pride in fat, flabby, overfed patients have passed, and have been replaced by a policy of attaining a gradual improvement in nutrition to a normal weight and a firm, healthy body tone.

The general rule for our guidance in nutrition is gradually to bring the patient back to normal weight and a little above, before the period of allowed exercise is reached, and to accomplish this without disturbing the digestion. A commonplace, well balanced diet of approximately 3,500 to 5,000 calories per day for an adult male is sufficient. In the early febrile stages, when the appetite, digestion and assimilation are poor, small and frequent feedings may have to be resorted to. Ordinarily, three normal meals a day with the heavy meal in the middle of the day should be adhered to.

The open air life has become an axiom in the treatment of tuberculosis, and from it has developed the modern appreciation of its value in the maintenance of general health and efficiency in the prevention of disease, and in the treatment of many other pathological conditions. The effect of open air upon the toxic symptoms of tuberculosis, such as fever, night sweats, poor appetite and digestion and upon the cough is often remarkable. Out-of-door sleeping is always desirable if possible, but the wide-open sleeping room usually produces equally good results, and in many cases is preferable because of personal idiosyncrasies.

The consensus of opinion of a large percent of men limiting themselves to tuberculosis work is that climate is not essential

to success in treatment. Everywhere, everyone agrees that it is *what* you do, not *where* you do it, that gets results.

Since tuberculosis is most successfully treated in sanatoria, when it is at all possible the person suffering from active tuberculosis should immediately enter a tuberculosis sanatorium. Where this is absolutely impossible, the only other alternative is to make one room of the home into a sanatorium unit. That is, to choose a room or porch with the maximum ventilation without exposure. All superfluous furniture, hangings and rugs should be removed, leaving only the necessary chairs, bedside table, dressing table and bed. The identical routine of a sanatorium must be strictly adhered to in regard to absolute rest, exercise, and diet. A careful record of the temperature, pulse and respiration must be faithfully kept. This should be made at 8, 12, 4 and 8 o'clock, as the variation of the routine depends on this. The patient and family must be instructed in detail about the safe handling and disposal of all the excreta. The only safe way of handling the sputum to protect the other members of the family is to use paper napkins to cover the mouth when coughing or sneezing to prevent droplet infection. A napkin should be used only once, then placed in a paper bag and burned. The sputum should be deposited in a paper cup especially made for this purpose and likewise burned. As I have tried to bring out before, enforcement of the routine is the prime factor in getting results. Of course many conditions and symptoms will arise during its course which will demand individual attention. In general, the wise plan is to meet them if possible by management rather than by medication, and at all times to keep remedies for special symptoms as simple and as few as possible.

Cough is probably the most constant and troublesome symptom met with. Absolute rest in bed with constant fresh air and a sincere effort on the part of the patient to suppress it will control a large percent of coughs. In the very active stage when the sputum is profuse a certain amount of productive cough is necessary to clear out the lungs in the morning. Only when a cough fails to subside with the routine should opiates be resorted to. I prefer codein to all other forms of opiates, and this only in very small doses and of a limited number. The mild cough mixtures may be used if they do not disturb the digestion.

Digestive disturbances can be kept at a minimum by adhering strictly to the most rational, simple diet, avoiding over-feeding and carefully watching the elimination. The appetite may be stimulated by such simple bitters as nux vomica. Slight disturbances after meals may be relieved by the mild anti-acids, in some cases dilute hydrochloric acid and in others the digestive ferments.

Pleurisy is a very frequent complication and ranges from a slight discomfort to a severe stabbing pain. This is relieved by a counter-irritant and if severe, by partially immobilizing the lungs by strapping with adhesive.

One of the most persistently constant symptoms is fever, and for it our only safe control is rest. As slight a temperature as 99 degrees Farenheit by mouth demands rest. High temperatures are preferably relieved by sponge baths and alcohol rubs. Anti-pyretics, such as aspirin and phenacetin may at times be given but in my opinion more frequently do harm rather than good. Night sweats usually follow high temperature and are controlled in the same manner.

The popular idea that the patient will lose strength and weight if kept constantly in bed is both false and dangerous. Loss of weight and strength are only evidences of general toxemia and adjust themselves as the toxemia is lessened and the benefits of rest begin to bear fruit.

The treatment of a pulmonary hemorrhage depends upon its character and amount and is rather negative. Paliative remedies such as codein to quiet the cough,

liquid diet, preferably cold, calcium lactate and gelatine, with absolute rest seem to give uniformly satisfactory results. In severe recurrent hemorrhages, artificial pneumothorax may be resorted to on the affected side.

The treatment of the complications so frequently associated with pulmonary tuberculosis, such as pleural effusions, spontaneous pneumothorax, pyopneumothorax, tuberculous laryngitis and enteritis should be handled with due regard to the lung condition, and can not be discussed here.

Sun and light treatment has not been put on a sufficiently scientific basis to be called a treatment. In a discussion with Dr. Rollier in Leysin, Switzerland, recently, on the subject of heliotherapy, I will quote his exact words: "Sun is a very potent factor and to get satisfactory results must be handled with great caution." The artificial sunlight or lamps are also of questionable value.

Artificial pneumothorax has taken a definite place in the treatment of uncomplicated uni-lateral cases of tuberculosis but technique, indications and counter-indications are too complicated to discuss in this paper. Thoracic surgery offers some relief to those cases in which adhesions prevent collapse of the lung by pneumothorax.

Specific treatments in the form of chemical agents, such as the various salts of mercury, copper, gold, iodine and calcium, have had their day, but have been discarded as valueless. The various derivatives of creosote by inhalation and by mouth have also been discarded. In a very limited number of cases of a certain type, tuberculin judiciously administered has seemed to give satisfactory results. It has also been impossible to establish a definite place for the routine use of bacterial vaccines, sero-therapy, and organo-therapy.

The more cases of tuberculosis that I handle, the more convinced do I become that it is unjust to the patient to promise him definite results in a given length of time, since every case is a law unto itself. In fact, it is almost impossible to define where the treatment of a case of active tuberculosis ends, and the after-care, which is equally as important as the treatment, begins. If the after-care is not as rigidly carried out as the treatment was there will be a relapse, which is more serious than the original attack. It is foolish and futile to spend large sums of money on the treatment of the tuberculous, only to have it largely wasted in the end through the lack of proper follow-up or after-care. As a rule, the return to the previous occupation is desirable, because it involves less strain and is more remunerative, thus providing for higher standards of living. Periodic examinations should be made whether symptoms are present or not, and the appearance of any, even slightly suspicious symptoms, should be immediately reported to the physician. Colds and acute respiratory infections should be carefully avoided and treated promptly.

In this brief outline I have tried to mention the salient factors that enter into the management and treatment of tuberculosis. It is greatly to be desired that many more physicians may become versed in the detailed management of tuberculosis, even though they do not specialize exclusively in this field. This would result in a much wider field of choice for the patient, and also diminish the far too frequent unfortunate results of unwise medical guidance. The personality of physicians should also be considered in recommending patients so that that of patient and physician may be mutually adapted to the acquisition of a close bond of sympathy and respect, which is equally as important as the physician's medical knowledge in the management and treatment of pulmonary tuberculosis.

DISCUSSION.

Dr. H. Boswell (Sanatorium, Miss.): Dr. Gowen has so well summarized the treatment of tuberculosis that I am only going to emphasize one or two things. The last paragraph of his paper ex-

pressing the successful treatment of tuberculosis describes leadership. The man who is successful in treating tuberculosis as we know it today must be a leader of his patient or patients in order to secure their co-operation.

We have no known medicine or serum or vaccine that has any material effect upon the course of this disease. The three things that we must depend upon are rest, food and air. Rest is the most important part, perhaps, of all of the treatment, and that means physical and mental rest. Mental rest is secured in direct proportion to the physician's ability to control this patient. Many people in my observation have been permitted during their period of high temperature and fast pulse to read, talk, receive visitors. To many reading is exercise, talking is exercise, and each individual must be dealt with on that basis.

There is one point on rest that Dr. Gowen did not mention and I am sure he did not have time, that we find very satisfactory in handling many patients. It gives them something to think about in addition to the actual good that may be accomplished. Patients coming in with a disease of one side of the chest, active at the time, running high temperature, are usually very uncomfortable if they attempt to lie on the diseased side. Yet from a physiological standpoint and the standpoint of treating tuberculosis they should always be taught to rest on the diseased side—as Dr. Webb calls it, "postural rest." By so doing they are splinting the diseased side with the mattress upon which they are lying and throwing the work of respiration on the good lung. In many cases this works beautifully and it is along the same basis of treating fractures.

Home rest versus sanatorium rest: rest at home is practically impossible for the reason that if it is a man he is studying about his business. He sees it being neglected and he is worrying, causing the consequent mental unrest. If it is a mother, she is worrying about Johnny or Mary crying about the place, or one comes in with a dirty face and she is worrying about that. So it becomes necessary to isolate them to secure proper rest, take them away, place them in institutions or places where they are separated entirely from business and home.

The other point that I want to speak of is one that Dr. Gowen mentioned very emphatically and that is the stuffing of patients, particularly as practiced today, the stuffing of raw eggs. One of the most harmful agents where it is used to excess and in many individuals where it is used at all. The albumin is digested in the stomach and if you give more than can be taken care of it is poured into the intestinal tract where it remains a pure culture media for the existing organisms and we get a fermentative diarrhea which is very hard to control.

The only other thing I want to refer to is the value of climate in tuberculosis. Men who have spent a great deal of time in the last several years on the subject are now realizing that climate is merely a luxury and it is not an esential in the treatment of tuberculosis. If the patient is financially able and can be mentally aided by being placed in a climate where he is more comfortable than in his home climate, of course it is to an advantage to move him. But the thing that we are having trouble with today in this country is the medical profession prescribing a change of climate to people who are unable to finance themselves and the southwest today is overloaded with the people we are dumping on them with nothing but railroad transportation one way. We make sure that we don't give it two ways.

I hope that we get the idea in mind that tuberculosis can be successfully treated in any climate. Where the patient needs change, if he is financially able to do so, change him, but unless the finances are forthcoming to the extent, I believe they say now of $1800 above the living expenses of his family, keep him at home among friends and where the responsibility of his life rests on his own friends and family.

Dr. S. E. Thompson (Kerrville, Texas): There are a number of very definite reasons why I am delighted today to come more than six hundred (600) miles fot the purpose of taking part in the discussion of Dr Gowen's paper. In the first place this is my mother's native state. In the second place I was born within a hundred miles of Monroe. In the third place the most valuable part of my medical education was secured within the domains of Louisiana. In the fourth place our own Dr. Wallace Durel was the first man to set my feet toward the city of Jerusalem so far as a correct knowledge of tuberculosis is concerned. He aroused me to the fact that every thing I thought I knew about tuberculosis was wrong and he replaced these errors with a correct knowledge of this disease and its management. I feel that his instruction seventeen or eighteen years ago has really been worth more to me than any previous or subsequent experience I have had.

Dr. Gowen and I have been working together for a number of years. In fact, he was with me when he began the study of tuberculosis of the lungs. I wish to compliment him on the excellent manner in which he has condensed this tremendously big subject: "The Management and Treatment of Pulmonary Tuberculosis." I wish

to add, that while I own and operate a tuberculosis sanatorium, located in one of our so-called health resorts in the Southwest, with Wallace Durel in South Louisiana and Charlie Gowen in North Louisiana, it will not be necessary for you to send your tuberculous patients anywhere.

By the management of tuberculosis, I assume that Dr. Gowen means the management of tuberculous patients. This is without question one of the most important propositions with which we have to deal. The patient is just as much a problem as the disease. To take a patient and keep him doing a definite and difficult thing month after month and some times year after year, is no easy task. A few years ago Dr. Herbert Maxim King, made the statement that tuberculosis was the most beneficent disease with which the human race is afflicted. That it is without doubt the world's greatest fool killer, that unless the patient had unusual intelligence, that unless he had the ability to get behind any kind of proposition and carry it out to a successful termination, he would have no chance to recover from this disease.

Dr. Gowen makes the statement that a complete knowledge of the exact pathology is essential in handling tuberculosis. This is true I grant you, but I wish to assure you that it is the most difficult thing to ascertain.

Located in our town—in addition to my own sanatorium—is a very large institution caring for about five hundred (500) patients. Whenever possible, we strive to check up our cases as to our findings by post mortem examinations. The patients are x-rayed up to as near the termination as possible and the interpretations written out. The physical examinations are made and the findings carefully stated. When a case comes to a post mortem, we have the written interpretation of the x-ray findings, the written interpretation of the physical examination and before us we have in the body, the cold blooded facts as to the pathology.

I wish to assure you that this work is very valuable, but at times very embarassing. I know of no greater specific for egotism. The doctor who thinks he can make an accurate marginal diagnosis in pulmonary tuberculosis and state that the disease extends down to the seventh spinous process or the upper margin of the third rib, needs to attend a few post mortem examinations.

However essential this information might be there is no way for us to get it. No diagnostic means or method at our disposal will reveal this information. There is no way to determine the beginning and formation of the original tubercle in the lung. There is no way to determine to a hair line, the extent of our pathology. We can only approximate it and you may be sure that your patient is always sicker and has more pathology than any examination will indicate.

The following case report will serve to illustrate this. The young lady was sent to us under the suspicion of tuberculosis. This suspicion was based on the fact that she tired easily with labor to which she was accustomed, there was a slight elevation of temperature in the afternoon and the pulse was a little rapid. A thorough physical examination was made with no definite findings. The x-ray findings furnished no evidence of this disease. We stated candidly that we could find no definite trouble, but suggested that the patient be kept under observation. The nurses were instructed to watch carefully for sputum in order that we might make an examination of this. In about two weeks there was a small particle of sputum one morning, which on examination revealed numerous tubercle bacilli. This patient drifted along for about six weeks and suddenly developed what appeared to be tuberculous meningitis and died. A post mortem was granted and revealed undoubted tuberculous meningitis. A careful search of the left lung showed no pathology. After a most diligent search of the right lung a small softening tuberculous mass about the size of a small pea was found just below the apex.

Cases of this kind serve to convince us that absence of proof is not proof of absence. When we fail to find a patient's trouble, and he still suffers from symptoms, we have no right to tell him that he is without disease and that he should go on and forget it.

In my judgment, the most important thing in the diagnosis of early pulmonary tuberculosis is TIME. Doctors are no longer expected to make a diagnosis in ten or fifteen minutes. It is unfair both to the patient and to the doctor not to require sufficient time for a complete study of all symptoms and a thorough analysis of the patient's condition.

Dr. Wallace J. Durel (New Orleans): I must say that I am glad to see after twenty-three years of experience in this line of work and especially attending meetings of the Louisiana State Society within the last twenty-three years or more, that tuberculosis has been a live topic of discussion at every meeting of the Louisiana State Medical Society.

I must say that Dr. Gowen has treated the subject of diet, rest and open air in a very thorough way. The flattering remarks of Dr. Thompson I must say are too flattering, however, I am proud of such a student as Dr. Thompson. It is stim-

ulating to the teacher, especially in my line of work, which is generally done within four walls without the spectacular gowns of the surgeon and the masters of surgery. It is done simply within four walls and you have to have stimuli of this kind.

I must say that the majority of us in the medical profession have not deviated very much from the Chinese treatment; in other words, we haven't gone any further than to tell a patient, "You know you must rest more and eat more and live in the open air," and that is as far as the treatment of tuberculosis goes with ninety percent of physicians. It is startling to think that at this time when so much voluminous literature has been given us that we haven't reached any further than that, as I say, in ninety percent of our ranks in the medical profession.

Fortunately, the scientific world has given us more and besides rest, diet and open air, there is much more to do. Rest, diet and open air is the basic treatment. Nothing will replace that. We will never do without it any more than you will do without rest in diphtheria where there is an absolute specific. You can't use antitoxin in the case of diphtheria and permit your patient to walk about. You can't introduce any treatment, however specific, in tuberculosis and permit your patient indiscriminately to walk about.

As auxiliary treatments, there are many. Creosote to me has been a great help in bronchial cases and the creosote therapy is as beneficial as it is old.

Next is the symptomatic treatment. Correct any deformity or malcondition existing in tuberculous patients. That is essential. From a tooth abscess to a liver abscess, it must be remedied first.

Calcium salts have given some benefit but intravenous use of calcium is no more essential than intravenous use of digitalis. As I was telling my classes the other day, it seems to me that intravenous use of medicine is becoming so that soon we will be giving castor oil intravenously. Calcium by mouth will give the same effect.

Tuberculin has been an old standard with me and I am glad to see this, the last report of the American Review of Tuberculosis gives a few words from my old colonel in the army in charge of the tuberculosis department, Colonel Bruns. He advocates tuberculin in the treatment of tuberculosis. It is not used in the army. See the last number of the American Review of Tuberculosis and you will see Dr. Bruns' opinion on that matter. I am glad that it has been mentioned.

Last of all, concerning opiates in tuberculosis, do without them entirely. When I took charge of the tuberculosis department of the Charity Hospital fourteen years ago I found that in one ward of ten patients they were using a quart of syrup of codein a week. I am sure that today with sixty-seven patients we don't mix a pint in six months. We get better effects. Remember that codein or any opiate increases the absorption of toxin.

Rest, as Dr. Gowen so ably has told you, is the essential thing—rest and rest. I remember once Dr. Minor at a meeting of the Southern Medical Association said that by excessive rest you might make your patients neurasthenic. I haven't seen it. It is much harder to keep the patient at rest than to keep him from exercising. When you tell him go, he is just like a race horse, he goes.

As far as climate is concerned, I agree with Dr. Boswell. Climate plays very little part. I must say as Dr. Thompson has said that it is very good to send our rich patients to the climatic resorts, but for us who are not in the climate resorts, to remain with the poor. We can make a living with the poor. And I say this, if climate is essential, let us stop all this talk of having institutions for tuberculosis in non-climatic resorts. But thank God, the climate is not essential and we can build our own tuberculosis sanatoriums and hospitals in our own wonderful climate of Louisiana. We can keep our patients outside 360 days of the year as well as any other part of the country. In certain institutions close to mine, I must say that there are no beds in the rooms. Therefore, that shows you if there are no beds in the rooms certainly patients can remain out 360 days in the year.

Dr. Homer Dupuy (New Orleans): In the care of tuberculosis we must not ignore the question of laryngeal involvement, for the reason that the lung condition may show marked improvement when invasion of the larynx will destroy all prospects of a cure. When the intralaryngeal structures are invaded hoarseness will be an early signal for trouble. We can then act promptly. But let me emphasize that when tubercular invasion affects extralaryngeal tissues, such as the epiglottis, the arytenoids, there is little or no hoarseness. This form of invasion is so subtle and insidious, that when dysphagia sets in there is already profound involvement. Let us, therefore, hearken to the warning, that we can only avoid serious laryngeal tubercular invasion, when we shall adopt a routine examination of the larynx and its adjoining structures, say several times a month. Laryngeal tuberculosis, in its incipiency,

is curable. A death from this cause alone is a reflection on our science.

Dr. N. F. Thiberge (New Orleans): There is one point that I am sorry the essayist didn't bring out better, and that is the value of artificial pneumothorax in certain cases. Anybody can perform that little operation at the bedside of the patient provided he has the manometer and provided he has the training in asepsis. Many times it is a life-saving procedure. In cases of repeated hemorrhages, where you can be sure that the hemorrhage is unilateral, where you can check your result with the x-rays, artificial pneumothorax often saves the life and in some cases can cure the disease.

Dr. Gowen (in closing): I won't take very much time. I would just like to mention Dr. Boswell, Dr. Thompson and Dr. Durel. I thank them for the discussion, and they covered a lot of points I failed to and didn't have time to cover. As Dr. Thompson said, the subject was very large and I merely mentioned the salient points.

As to Dr. Dupuy's discussion of tuberculous laryngitis, that is a thing that has given us all a great deal of concern. How to prevent it or how to treat it is not known other than rest. We have no other specific remedy. Pneumothorax is a thing that is most valuable in unilateral cases and I think that it is a little bit more difficult to give than the doctor might have given the impression, because if it is not handled properly it can be as dangerous as beneficial at times.

There are a great many points we could cover but for lack of time I will close.

VERTIGO;

ITS IMPORTANCE TO THE AURIST, OCULIST AND GENERAL PRACTITIONER.

FERN CHAMPENOIS, M. D.,

HATTIESBURG, MISS.

The study of equilibrium and vertigo in their relation to the physiology of the labyrinth as well as the pathological symptoms arising from direct or indirect morbid influences to the labyrinth has appealed to me for some time, in fact every since I was in the medical service of the late war when the War Department found it necessary to give certain of us an intensive course on this subject that we might be proficient in examining the potential aviator. But for this training in the army and the interest I have taken since, I would be no wiser than the general man. So it is that I ask of you who are very proficient in the study of the labyrinth to be charitable in your discussion, and to those of you who are not wise, just bear with me in the hope that I might impart something of value.

The labyrinth is divided into the cochlea which has to do with hearing, and the static labyrinth. The static labyrinth, composed of the utricle, saccule and semicircular canals is the main factor in maintaining body balance, and any stimulation of it, direct or indirect, whether from disease or not, will be followed by certain definite reactions, such as vertigo, vomiting, nystagmus, past-pointing and falling. Such being the case, it certainly behooves the aurist, oculist and general practitioner to know, from point of view of each, what diseases or influences might bring about such phenomena. It would be interesting to discuss the nerves tracts of the eight nerves leading from the static labyrinth and their association with other intracranial pathways, showing the normal reactions of static labyrinth stimulation and methods used, also pointing out the possible localization of brain lesions that interfere with the normal functioning of these tracts, but being too much for me, I will have to refer you to the works of Braun, Friesner, Isaac Jones and others.

Vertigo means a sensation that one is off balance with surrounding objects and indicates a definite disturbance of the static labyrinth. This disturbance might be direct or from some other part of the body. In any case, there is a minor feeling of dizziness with sometimes the more pronounced symptoms, nausea, vomiting, nystagmus, and even falling. Realizing that all vertigoes are induced by a disturbance of the ear mechanism, I should think that the study and treatment of these cases would

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fall pre-eminently in the field of the well prepared otologist. However, neuro-otology being in its infancy, few are so prepared and we, with the oculist, can render aid only where the eye or ear are directly involved.

All of us are acquainted with the original five special senses, sight, hearing, taste, smell and touch, but what about the recent sixth and the still more recent seventh? Most of us know the sixth or muscle, joint and splanchnic sense by means of which the individual performs co-ordinate acts automatically and unconsciously, but how many of us know the seventh, or, as termed by Isaac Jones, the kinetic-static sense? The kinetic-static sense, like the other special senses, depends on an end-organ, the static labyrinth for the reception of stimuli, on a nerve to convey the stimuli, the eight, and on a nerve-centre to interpret their significance; this is done in this case here by an interpretation of proper balance and when disturbed of vertigo.

Realizing that the ear, in a way, is a special sense for balance, should throw more light on the importance of this organ to the general practitioner, because he, more than any other, is constantly consulted by these cases of vertigo, and I dare say that nine times out of ten he does not know the clinical significance of their connection with the labyrinth. To the average physician these dizzy attacks are due to the liver, stomach or intestines, and if calomel does not relieve the attack, he is usually at a loss to account for it. A great many times the mercury corrects the toxemia that is indirectly disturbing the static labyrinth, but a knowledge of the modus operandi is certainly of value. If the calomel does not relieve, the doctor, more or less, rightfully refers the sufferer to an oculist for glasses. I say more or less rightfully as I believe that these cases should first go to the aurist. If the glasses fail and the trouble gets worse, the ear man or the neurologist will get a chance at the victim. And here is where the proficient ear man can render valuable service, if the vertigo is induced by a direct and local disturbance of the ear mechanism. As this disturbance is caused by a middle ear suppuration, local or operative treatment will usually give the desired results.

The otologist, if he desires and is willing to equip himself with a Barany chair, which is for the purpose of testing the static labyrinth, could soon become proficient in the analysis of the symptoms of diseases arising from disturbances of the internal ear and its associated intracranial path-ways and render valuable aid to the neurologist just as the oculist does when certain palsies of the eye muscles indicate interference of the nerve pathways from the eye.

The general practitioner is not directly interested in vertigoes caused by an eye or an ear influence, but he should, most assuredly, understand the others and their clinical significance. Those vertigoes that should be of interest to him are caused by cardiovascular lesions, toxemias and lesions of the brain affecting the intracranial pathways of the labyrinth.

Isaac Jones in his wonderful book, Equilibrium and Vertigo, condenses the causes of vertigo into five classes and says that vertigo may be induced by the following: 1. Involvement of the ear-mechanism by a lesion in the ear itself. 2. Involvement of the ear-mechanism by a lesion affecting the intracranial pathways from the ear. 3. Involvement of the ear-mechanism by ocular disturbances through the eye-muscle nuclei and association fibers. 4. Involvement of the ear-mechanism by cardio-vascular disturbances. 5. Involvement of the ear-mechanisms by toxemias from any organ or part of the body.

Every physician should be familiar with all five of these classes, but the ear man especially so with the first, as this usually means an extension of a chronic suppura-

tive otitis media to the labyrinth with a possible fatal ending from one of the labyrinthial infections. So it is that I would warn the general practitioner to be suspicious of a vertigo that is associated with a chronic ear discharge. Vertigo of class two, due to lesions within the brain, such as tumor, thrombosis, abscess and gumma lies in the field of the neurologist, but it should be a source of great satisfaction to the aurist to realize that with the proper preparation that he could just as well handle these cases. The ocular conditions that produce vertigo of class three are of course treated by the eye man, but then he should realize that the eye is not mainly the organ of balance, being only one of the triology, the other two being the static labyrinth and the muscle sense, and that of this triology the static labyrinth is the most important. The eye can be rendered blind and no vertigo follow, but just a slight stimulation of the static labyrinth and one is made very dizzy. Cardiovascular disturbances of class four causing vertigo are those conditions which produce a congestion or an ischaemia of the brain which at the same time affects the static labyrinth. The toxemias of class five that produce a vertigo are ptomain poisoning, alcoholism, poisoning by chemicals, as lead, quinine, and etc. These toxemias act either through the circulation or definitely affecting the internal ear or its pathway.

In conclusion, I would like to impress you with the fact that vertigo from whatever cause, is a disturbance of the static labyrinth, that an ear man, properly prepared, can analyze disturbance of the vestibular apparatus, and that cases of vertigo may need no longer be considered vague and mysterious symptoms, but indicate, as a rule, some definite pathological influences.

DISCUSSION.

Dr. George Adkins: My discussion will be very brief, because the first three things mentioned there are located in the ear. I feel that they do not stand out as prominently as the cardiovascular conditions and the toxic conditions. We all know you can take a person with high blood pressure and will find a shaky gait. You can take a person with a presbyopia—I have had the experience—and you get some little waviness in the gait. Those things we all grant. Now, dealing with an x-ray, and doing some work along that line, has led me to this, with a few other little experiences. I used to get a case like this and treat him indefinitely, and some surgeon would get hold of him and remove a tumor or a gall bladder and the dizziness left.

The toxic effect on the labyrinth certainly does account for a great deal of it, and it is the one thing that links use again right square up with general medicine, and we can't get away from it.

It ought to impress the fact upon us, that the fellow who narrows himself down from the shoulders up is going to fall down on a lot of these cases. It certainly should be worked out from a general medicine standpoint as well as from an ear standpoint, because a great deal of it is due to abdominal conditions, and especially a distended gall bladder or toxic colon. I enjoyed the paper very much.

Dr. John J. Shea: The study of vertigo from a purely labyrinthine standpoint is a trying and a speculative condition. In 1916, I took my first course, and, as someone said here a few minutes ago, I didn't get anything. We took about three months in it, and at the end we didn't know much. But in 1917, the University of Pennsylvania opened a course under Doctors Jones and Fisher, and then immediately afterwards came along the war, and for seven months practically all I did all day long was Barany's, and I began to think I knew a little about Barany's, but the more I saw it applied in clinical cases the more I began to appreciate that it is not all as it is talked. Some of the cases that looked like a cerebellar tumor turned out to be a gall bladder, and some that apparently do not give any result turn out to be a brain tumor. For instance, the only case in my life I ever saw of a double cerebellar tumor occurred in a girl we did repeated Barany's on and never picked up the fact that she had a cerebellar tumor, when she had two of them, one on each side. So, corroborating what Dr. Adkins said about the gall bladder, there are certain selected affinities of certain nerves; and there is a marked affinity of biliary toxine for the eighth nerve. As Meckles has a tendency for the nerve of the forearm, so biliary toxines have a positive affinity for the eighth nerve.

I saw a case only recently in a girl from whom no reaction could be obtained. We did a spinal Wassermann, and her Wassermann was negative; and we did a gall bladder on her and she immediately cleared up. Really, I believe that we all ought to do Barany's, and all ought to

be profited who read the definite fixed principles that Doctor Jones in his book—I say this with real heartfelt sympathy, because I read proof on that book—would want us to believe. It is an adjunct. It certainly is one more help to the neurologist and general diagnostician that the ear man can give.

Dr. E. F. Howard: I think the most of us who made our first study of vertigo in the army got the idea that there is nothing much to this thing at all. Of course, we were not looking for diseased men; we were looking for normal men, and if a man was abnormal they promptly canned him. They were very rigid and definite and close-cut regarding what could pass and what could not pass, and we found out before we had gone very far that those rules were all Tom-foolishness. The unit with which I worked did all that work for Ellington Field, in Texas, and they sent us up there men who would sit in the chair like a log of wood without any response at all, and yet those men could go up in the plane and juggle it like a juggler tossing balls. Regarding the use of it, the men in the hospital, the general run, very seldom came to us; in fact, I think I can recall only one class of cases, that was alluded to by Dr. Shea. Very occasionally we would get one of these fellows, and we didn't get so many men of that type, because the men down there had been examined before, and were supposed to be pretty good men.

Dr. Champenois (closing): Gentlemen: I appreciate your interesting discussion and would like to remark to Dr. Shea that as there is no part of medicine that is exact, one could not expect as much from the recent research work on the labyrinth. My chief purpose in presenting this paper was to bring forth the fact that the static labyrinth is the seat of equilibration, also that any stimulation thereof, direct or indirect, would produce a vertigo which properly interpreted would aid the diagnostician in locating the cause. I thank you.

SWIMMING BATH CONJUNCTIVITIS.*

CHAS. A. BAHN, M. D.,

NEW ORLEANS.

Epidemics of a definite and characteristic conjunctival inflammation caused by bathing usually in crowded public tanks, have been repeatedly reported in various parts of the world during the past twenty-five years. Practically the only report of its occurrence in this country is by Gradle in 1916. The characteristic features of the disease as described by Paderstein, Comberg and numerous others aside from its invariable occurrence, seven to fourteen days after bathing usually in an overcrowded public resort, make its positive diagnosis relatively simple.

During the past two summers Dr. Smith and I have treated, in private practice, at least thirty-six cases, twenty-four in 1925 and twelve in 1926, the diagnosis of which is beyond question. The condition is therefore much more frequent in this community and probably in this country than our ophthalmic literature would indicate. The profession and public should be better informed concerning an infection which is largely preventable and which involves the popularity and safety of public bathing, one of our greatest means of recreation, physical exercise and pleasure during the summer months.

Following a seven to fourteen day incubation period, the lids, especially the upper, becomes thickened, the palpebral opening smaller, and the conjunctiva much swollen and inflamed. The number and size of the follicles are especially increased, the preauricular gland is enlarged, and slight mucoid secretion is discharged. The height of the inflammation is usually reached within one to two weeks and within a month the eyes are ordinarily but little worse for the disease. The follicles persist occasionally, as in one of our cases, for practically a year, the palpebral opening remaining smaller. In the past two years practically all of our cases have occurred during the month of July. Eight of our thirty-six patients were females. In twenty-six of our cases but one eye was involved, illustrating a rather marked monocular character and slight contagiousness.

The bacterial findings in our patients examined were uniformly negative for a causative organism. They contained at

*Read before the Orleans Parish Medical Society, October 25th, 1926.

most a few of the ordinary pus organisms of insufficient number and uniformity to be causative. That the contagium is postively none of the known organisms is generally accepted. The only characteristic laboratory finding is the increased frequency of the inclusion bodies of Prowazek and Halberstaedler which are also found in trachoma, some cases of infantile ophthalmia, etc., and whose significance is not known.

In the transmission of this infection there are three dominant factors: individual sensitiveness to the infection, contact with the contagion, and slight trauma or increased pressure which favors prolonged contact and growth of the infecting organism.

Even under unfavorable conditions of overcrowding, but a small percentage of bathers contract the disease, showing that individual immunity plays an important role in the prevention of wider distribution. None of our 1925 patients returned with the same condition in 1926, suggesting that they had established an immunity or were not exposed again to the contagium. Some persons are extremely sensitive to this infection. They not only develop a severe conjunctival inflammation but co-incidentally a febrile reaction and a similar infection of the upper respiratory passages, often including the sinuses and eustachian tube as well as an acute inflammation of the external urinary canal. This was rather forceably illustrated in one of our patients. We have seen no infected colored patients, they being relatively immune to trachoma which swimming bath conjunctivitis closely resembles.

The infectious material apparently comes from previous bathers, water acting only as a transmitting medium. The condition occurs only where a relatively large number of persons bathe in a small amount of water or in very slowly moving water, as seen in Lake Ponchartrain. The infectious material probably is either human epithelium with attendant bacteria, of which there is no evidence in the conjunctiva of the infected or other bodily secreta, or excreta of which the urine is the most copious and common. The number of persons who urinate while bathing is much greater than most of us imagine, probably due to the irritating effect of water on the external genitalia. I have been repeatedly told that it is generally conceded by those most familiar with the subject that about fifteen per cent of males and seventy-five per cent of females urinate while bathing, which statement is hard to verify. We know, however, that in the new born a rather frequent form of conjunctivitis which has rather similar clinical characteristics may be produced by contact with urine which does not contain gonococci.

There are a group of ocular affections of undetermined origin which have more or less the same clinical characteristics, including a relatively long incubation period and course, marked folliculosis, tendency to healing with cicatrization, marked preauricular enlargement, and absence of organisms in sufficient quantities to be causative. They are swimming bath conjunctivitis, trachoma, certain conjunctival inflammations in the new born, and those forms of Parinaud's conjunctivitis associated with animal contact. Is it not possible that they all have a more or less common cause in some group of vegetable or animal parasite, possibly the latter, which at least frequently is found in the secreta or excreta of man or lower animals and which may be immediately contagious or become so within a very short time.

The exciting cause which facilitates the growth of the infectious material on the sensitive mucus membrane, is probably a very slight conjunctival or corneal abrasion, or simply the increased pressure on the eye caused by swimming or diving especially with the eyes open.

Treatment of course includes the avoidance of public baths by the infected dur-

ing the remainder of the season because of possible infection to others and similar affection elsewhere in the body, especially in the noses and sinuses and genitalia. Avoidance of basins, towels, water, soap, and pillows used by others for at least two months should be emphasized.

Two types of treatment are in use. One is based on the resemblance to trachoma, and therefore includes the use of silver in organic or inorganic form during the acute stages of the disease, and mercurial preparations, preferably with massage in the later stages. The other treatment is based upon the use of quinine as a protoplamic poisoning, ethyl hydro-cuprein, (optochin). In our experience there has been comparatively little difference in the merits of the two different methods. Personally I prefer a freshly prepared 1% optochin solution used hourly combined with a 1-3000 bichloride ointment applied two or three times daily to prevent lid adhesion.

The prevention of this disagreeable and possibly serious affection lies in the sanitation of public bathing resorts. Over-crowding and urinating while bathing are probably the major causes. A minimum of fifteen gallons per bather, fortified by chlorine, preferably introduced in a mixing chamber to the extent of 1 mg. per 1 L.; the use of a thorough preliminary scrub and shower; the thorough scrubbing of tanks once or possibly twice weekly; and the instruction of the public concerning the frequency and harmfulness of urinating while bathing, will greatly reduce the periodic attacks that yearly occur. Those who are especially sensitive to this type of infection should avoid public bathing resorts, and when more than one in five hundred bathers in any resort become infected preventative measures should be promptly taken.

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DISCUSSION.

Dr. V. C. Smith: Dr. Bahn and I have been interested in and studying these cases of swimming tank conjunctivitis for the last two summers. His paper has covered the subject so thoroughly that there is not very much for me to add. There are, however, several facts of interest that I thought it would not be amiss to emphasize.

First: In most cases the infection did not develop until about the sixth or seventh day after the patient had been in the pool (rather exposed), which is rather a long period of incubation, the usual case of gonorrheal infection making its appearance in twenty-four hours, and pink eye in a very much shorter time than seven days.

Second: While the disease resembles in a great many respects the ordinary case of pink eye, and in some of its aspects trachoma, it is not like either one in its symptoms, prognosis, duration or treatment. The marked follicular condition, the rather long treatment, is entirely different from the ordinary history of pink eye, yet the complete cure without any complications corresponds to the history of the average case of pink eye. The marked follicular condition, or conjunctivitis, often suggesting trachoma on first examination, is negatived by the absence of all other symptoms, namely: thickening of the tarsus, scar tissue formation and cure without complications, that is, practically in every case. The disease, as a rule, lasts much longer in its treatment than the average case of pink eye; the treatment and cure is much less severe and shorter than trachoma, if it is possible to say a case of trachoma is ever cured.

Third: It has all the ear marks of a specific infection and yet, like trachoma again, so far no organism has been isolated that we can say is the cause of the disease.

Prevention, of course, is the chief problem of this condition, and, where swimming pools are frequented by large masses, one that must be solved by the health authorities, co-operating with those who manage the pools.

Dr. J. E. Dupuy: As Dr. Smith says, Dr. Bahn has covered his subject so completely, going into diagnosis, symptoms and treatment, that little can be added in that respect. There is one thing in his paper which tallies with my experience, viz: that he saw in 1925 twenty-five cases of swimming tank conjunctivitis and in 1926 only about twelve cases. In my practice, while the number was not so great, the proportion was the same; I saw about six cases in 1925 and two or three in 1926. I must say, however, that in my series of cases I doubt whether they were real swimming tank conjunctivitis. There was not so marked folliculosis, but the infection was not as severe and did not last so long, the average duration about eight to ten days. The incubation period, according to my records, was difficult to determine definitely as most of them had been in swimming every day and some of them had probably continued to go in the pools for two or three days after becoming infected and before coming to my office for treatment. Among these infections I saw more from the City Park Pool than from the other swimming tanks.

Dr. Bahn is to be congratulated on bringing this subject up. It is a matter which all doctors and health officers should give some thought and study to; a matter on which we should advise our friends and patients and, on the slightest symptoms of the disease, the doctor ought to send that case to an oculist.

Dr. W. R. Buffington: I treated quite a number of cases of swimming tank conjunctivitis last year, but have not seen any this year. I was struck, of course, by the long period of incubation. From these patients pretty accurate data was obtained. Especially interesting was one of these cases in whom the incubation period was two weeks. There was no uncertainty about the time as he had been in the tank but once; it was two weeks after that, almost to a day, before the infection made its appearance. He ran a typical course, slow to cure, with that tendency to relapse noticeable in all of these cases if you do not keep hammering away at them. A majority of the infection came to me from the City Park Pool.

A striking thing in these infections is the numerous amount of subconjunctival hemorrhages. In one case there was subcutaneous ecchymosis of the eyelids. Another striking thing is that it is not very contagious. I saw but one instance where the evidence from contagion from patient to patient seemed positive—a child contracted the disease from his father. He ran a severe course with associated ecchymosis of the lids. In the cases I treated there were no serious complications, they all got well and have remained well as far as I know.

Talking about the etiology, I think there is a new field being opened up and that is to study the phagocytosis of the epithelial cells of the conjunctiva. Epithelium of the conjunctiva certainly does exercise a phagocytic action as does epithelial and certain connective tissue cells in other parts of the body.

The infecting organism of the peculiar diseases of the conjunctiva, such as trachoma, swimming pool conjunctivitis, and inclusion blennorrhea, sometimes will be discovered. I believe the organism found will be of the intra-cellular type. Such bacteria as pneumococci and gonococci undergo disintegration when ingested by the epithelial cells. May we not venture the opinion that the germs incident to the diseases just mentioned thrive on cell cytoplasm, instead of becoming destroyed as other micro-organism, by the process of epithelial phagocytosis? Our present methods of making smears and culture from the conjunctival sac is next to worthless.

Dr. W. H. Knolle: Would the use of an eye wash or a proper per cent of argyrol instilled immediately after the swimming, or as soon after as possible, prevent the frequency of that disease? What do you think of it as a prophylactic measure?

Dr. Chas. A. Bahn (closing): I am glad that the discussion has again brought out that the cases reported represent a definite clinical entity and were not the ordinary catarrhal conjunctivitis of bacterial origin.

Any mention of the particular tank in which the infection was probably contracted has been avoided because this could do no good at the present time.

Dr. Blackshear's discussion was of especial interest because I believe that external and middle ear infection as well as that of the eustachian tube and sinuses received in swimming tanks is greater than usually believed.

Replying to Dr. Knolle, we unfortunately have no specific remedy nor prophylactic drugs for this disease. The incidence under ordinary conditions is usually not sufficient to justify the routine use of prophylactic eye drops by all bathers. Under exceptional circumstances, however, this might be worth while. If I were exposed to probable infec-

tion I would use one or two drops of a freshly prepared optochin solution hourly for one or two days.

We have been having this condition for years and will continue to. We can, however, limit it to the extremely sensitive who constitute but a small percentage of those infected.

If the public and those in charge of swimming tanks could, in a common sense way, be interested and instructed, as mentioned in the paper, concerning the uselessness and inadvisability of urinating while bathing the number of those who will become infected next July will be materially reduced.

THE CORRECTION OF ESOTROPIA WITH GLASSES.*

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In the discussion of the correction with glasses of esotropia or convergent strabismus, commonly known as cross eyes, when due to hyperopia, a brief review of the gross anatomy of some of the structures of the human eye should be made. The muscles of the eye are the four recti, two oblique and the ciliary.

The principal action of the recti muscles is as their name indicates, and, co-ordinating with the superior oblique in rotating the eyeball inward and downward, and the inferior oblique in rotating it outward and upward. The ciliary muscle possesses the function of accommodation, permits the variation in the degree of convexity of the crystalline lens, which enables rays of light to focus, so as to produce sharp and distinct images on the retina. The nerve supply of the muscles of the eye is a most important factor in the discussion of esotropia or cross eyes. The third cranial nerve supplies all the above named muscles with the exception of external rectus which is supplied by the sixth cranial and the superior oblique by the fourth cranial.

*Read before the Louisiana State Medical Society, Monroe, April 15-17, 1926.

The coats of the eye are as follows: Three superimposed, enclosing three refracting media, or, so-called humors. The coats named from without inward are: a fibrous, a vascular and nervous coat. The refracting media enumerated from before backward are: The aqueous humor, crystalline lens and the vitreous humor. With the review of the anatomy before us, your attention will next be directed to the etiology of esotropia, which has occasioned much discussion, and even at this time is not a settled question.

In general terms, the factors which have been considered important in the causing of esotropia may be summarized as follows:

First—Disturbance of the relation between accommodation and convergence by error of refraction.

Second—Inequality in the vision of the two eyes, or ambyopia of one eye which removes the natural stimulus diplopia, to exact convergence.

Third—Disturbance of innervation and defective development of the fusing faculty.

The first cause mentioned, that is the disturbance in the relation of accommodation and convergance, is the one that will have our consideration. Convergence is the power of the internal recti muscles especially to turn the eyes to the median line; to fix an object closer than 20 feet. Normal eyes, when looking at an object 20 feet or more, are not supposed to converge, the vision lines being parallel, and the power of convergence in the state of rest. Accommodation takes place by the action of the ciliary muscles which encircle the crystalline lens and draws forward the inner layer of the choroid and hyaloid membrane, the suspensory ligaments being relaxed, and the lens, by its own elasticity, allowed to assume a greater convexity, especially its anterior surface, thus increasing its refraction. Some latitude of movement is possessed by both accommodation and convergence separately; but a limit to the

independent exercise of either function exists, beyond which neither function can operate alone. Thus a hyperopia of 6D would require an accommodation of 6D to neutralize it, the visual lines being parallel. This is rarely possible. Some meter angles of convergence will usually accompany the accommodative effort. The point of convergence is then nearer than the point accommodated for, constituting a convergent squint.

Hyperopia is, therefore frequently accompanied by convergent squint, and following squint or cross eye, diplopia develops only for a short time, in the beginning of the squint and soon disappears because the patient learns to withdraw his attention from the impression conveyed by the squinting eye; he "excludes" or "suppresses" the image with this eye. The act of exclusion is a psychical act; the squinting eye really does see, but the visual perceptions set up by it do not excite attention,—just as many men are able in looking through a microscope with one eye, to leave the other open, and yet not see with it. As a result of this act of exclusion, a patient with squint has mere monocular vision, soon following this; amblyopia develops in the squinting eye, because in this case the perception of the retinal images in this eye is suppressed, and the eye is thus purposely excluded from participation in the act of vision. In such cases, the retina, owing to lack of exercise, fails to attain to that delicacy of function which belongs to normal eyes, or the functional capacity which has been already acquired is gradually lost; but absolute blindness never occurs. When the condition is allowed to go over a period of months, the function of the retina never again become perfectly normal. The earlier the case is seen by the occulist, the more readily the retina will respond to the vision given by properly fitted lens.

By refraction of the eye is meant its optical adjustment with the eyes at absolute rest; that is, in the absence of any accommodative effort.

The optical adjustment of a normal eye is correct; that is, parallel rays passing through the refraction media of the eye, focus upon the retina.

By hyperopia is meant, parallel rays falling upon the cornea theoretically coming to a focus behind the retina.

It is assumed that nearly all new-born babies are ametropic and only a small percentage develop into absolutely normal eyes. Statistics gathered by Tenner give the following: Out of four thousand eight hundred school children the proportion of emmetropes, or normal eyes, was found to be as follows: zero at the age of 5 or 6; ½ to 1% before 9; and 7% at the age of 12—average of 4%.

It is the hyperopic eye to which your attention is directed. How does this condition cause esotropia or convergent squint? The hyperope who develops squint is placed in the following dilemma: If he wishes to see distinctly he has to make too strong an effort of accommodation, but he can do this only by putting forth an excessive convergence, so that he sees double, or, in other words, an impulse from the brain over the third nerve to the ciliary muscle, also goes to the internal rectus, causing a contraction of this muscle, and a squint, for both these muscles are supplied by the same nerve. But if he converges only so much as is necessary without squinting, he cannot bring the proper amount of accommodation into play, and hence sees indistinctly. He is, therefore, given the choice of "seeing distinctly and double" or "seeing single and indistinctly." As a rule he prefers the former alternative, whenever from the fact that the image in one of the eyes has grown indistinct, diplopia is made less disagreeable to him.

TREATMENT.

The correction of the error of refraction in esotropia as well as all disturbances of the motility of the eyes is a very important element in the treatment, and may alone

suffice to effect a cure, especially when the deviation is of periodic, or alternating type. Here it is necessary in a large majority of cases to correct the whole hyperopia and astigmatism present, as found under atropine and instruct the patient to wear the glasses all the time. It may well be stated that in a case where glasses effect only a partial cure in continuous squint that the reason is that they eliminate simply the accommodative element, thus, in a hyperope, with combined convergence-excess, and divergent-insufficiency, they eliminate the former only, so as to convert the deviation from a continuous to a periodic one. Later, to be sure the residual divergent-insufficiency may diminish or even disappear, the very relief of the strain on the convergence may diminish, also the tendency to divergence inhibition.

Since esotropia from errors of refraction begins early in life—from one to four years, and the ambylopia ex anopsia has its beginning soon after the squint, or cross eye, develops, it is necessary to get the patient early, as soon as possible after the squint is observed, that is if the child is old enough to wear glasses, and here is where the responsibility lies upon the general practitioner, for in the large majority of the cases, the family physician will see the child soon after the cross eye has manifested itself.

If this paper serves no other purpose than to impress you, the general practitioner, with the fact that a large percentage of these cases in young children when properly fitted with glasses, will correct the cross eye and prevent a partial loss of vision—I will feel that my efforts have not been in vain.

REPORT OF CASES.

No. 1, W. C., white, male, age 4 years, brought to my office by his father, who stated that his left eye would cross at times. Diagnosis was made of alternating esotropia, more constant in the left eye. One per cent atropine sulphate was ordered, one drop in each eye three times a day and the patient requested to return on the following day, at which time his vision being right eye 20/100, left eye 20/200. After examination with the retinscope, his full correction was found to be right eye plus 2.50 sphere, left eye plus 3.25 sphere, which was prescribed and with which he sees 20/20 R. L. and completely corrects his esotropia and with which he gets binocular single vision.

Case No. 2. C. S., white, female, age 12, came to my office wearing glasses, complained that her eyes would cross at times. Diagnosis alternating esotropia, more constant in left eye. One per cent atropine sulphate was ordered, one drop in each eye three times a day and patient requested to return on the following day, at which time the vision was right eye 20/200, left eye 10/200. After refraction with the retinoscope her full correction was found to be right eye plus 2.25 sphere, combined with a plus 1.50 cylinder axis 90. Left eye plus 2.75 sphere with plus 2 cylinders axis 90, which was prescribed and with which she saw one month later, right eye 20/15 minus 3, left eye 20/30 plus 4, at which time it was determined that with this correction being worn, the squint in the left eye is almost completely recovered, and with which correction she gets binocular single vision.

Case No. 3. D. S., white, male, 2 years 9 months of age. Father states that child's eyes would cross occasionally. Diagnosis alternatinng esotropia periodic. The routine of atropine was ordered and on the following day examination with the retinoscope demonstrated an error of plus 9 sphere in the right eye plus 9.50 sphere in the left eye. In this case I varied from my rule in that I prescribed only plus 6 sphere in the right eye and plus 6.50 in the left eye, as I felt that the above correction would be sufficient to correct his esotropia, inasmuch as I had seen the case early. Child seen three months later and his parents report that he wears his glasses constantly and that his eyes do not cross while his glasses are being worn. At his age I was unable to demonstrate positively that he has binocular single vision with his correction worn.

DISCUSSION.

Dr. H. Dickson Bruns (New Orleans): There is very little to discuss in the paper that the doctor has just read because he has covered the ground very thoroughly. Maybe from long practice in teaching men who have had no other knowledge of the eye than the polite knowledge they gathered in the general medical school, I could make one point clear and impressive.

The reason that we can relieve internal strabismus with glasses is because that is the most common form of squint in people who have farsighted eyes. That is a very bad word in English

because a man who has a very farsighted eye doesn't see very well at a distance and he doesn't see well nearby, but there is no other English word to designate the man who is the opposite of nearsighted. That man, because the eye is too short to hold the focus of his lens in a state of rest, has got to keep his muscle of accommodation (the circular muscle which relaxes the lens and allows it to assume a more globular shape and therefore to shorten the focus) under tension all the time.

Now it is impossible to innervate the muscle that makes the lens more convex without at the same time innervating the internal recti. The two things have been developed together and are inextricably connected. Therefore, if you relax all effort of the circular accommodating muscle you diminish the innervation of the internal recti, and having diminished the nerve impulse to the internal recti the other muscles of the eye have a better chance to hold the eye in a correct position to maintain binocular single vision.

It is quite evident that if we are to undo a fault like this in innervation we have to take the subject quite young, because when these nervous paths get thoroughly established you can't undo the evil that has been done. But if we take children very young, who show a persistence of squint, and I say persistence because you know there is a time when all infants squint. They can't direct and hold their eyes in a proper manner on a single point in front of them; they all wobble their eyes about in the effort. But if by eighteen months or two years it is evident that the child is beginning to turn one eye or the other eye in as a practice, that is the time to interfere.

It is easy to tell whether you are going to succeed with glasses. All glasses can do is to suspend the accommodative effort. You can suspend all accommodative effort with a solution of atropin just as well as with glasses and perhaps better. If you are going to be able to relieve that child, therefore, its squint will disappear if it is atropinized. A squint that does not disappear under the use of atropin is not going to disappear under the use of glasses. That is self-evident because you remove the temptation to excessive innervation of the internal recti by relaxing accommodation, and you can relax accommodation more thoroughly with atropin than with glasses.

There is one other point I think ought to be emphasized. Students, those who are learning, will cut down the glass to bring the eye up to a theoretical normal in its focusing capacity, *i. e.*, to give good vision. The minute you do that, the minute you diminish by anything at all the glass that makes accommodative effort absolutely necessary, that minute you are giving up the whole fight. You have got to make the child use what we call the full correction; that is to say, a glass strong enough to put the focus on the retina when the eye is entirely relaxed. If you take off a percentage of that glass then the child has got to make up by an effort of accommodation for that lack in percentage. The minute it does that it innervates excessively the internal rectus and that is just what you want to avoid.

If that is true of ordinary spectacle glasses, it is ever so much more true if you find that the child is a stigmatic, that is to say, has more defect in one plane of the eye than it has in the plane at right angles; it is clear if the eye differs considerably in two planes at right angles to one another, you can never get an accurate focus unless you supply that difference between the two planes with the glass. Now there is only one glass that supplies that difference. If you subtract anything from that glass the difference is not supplied and you have the same defective eye; an astigmatic eye.

You have got to give a full correction, therefore, in these little children or you better let them alone. This thing of putting glasses on them that only partly corrects their trouble is perfectly useless.

In all these cases you will need the active cooperation of the parents, because it is the parents that have to watch the child all the time and see that it wears its glasses and wears them properly. After it has worn the glasses, been compelled to wear them for a little while, I know by experience even little bit of things three years old, two years old, will clutch to their glasses when they get up in the morning before they do anything else. They have experienced relief and benefit and they want to put them on.

THE CLINICAL VALUE OF EHRLICH'S ALDEHYDE REACTION.*

MY IMPRESSIONS AFTER FIFTEEN YEARS EXPERIENCE WITH THE TEST IN OVER FIFTEEN THOUSAND URINE EXAMINATIONS.

ALLAN EUSTIS, M. D.,

NEW ORLEANS.

In a paper[1] read before the Louisiana State Medical Society in 1912, I attempted to stimulate interest in Ehrlich's aldehyde test by a report of 363 cases in which the test had been used, 76% of which showed

*Read before the Orleans Parish Medical Society, October 25th, 1926.

a negative reaction and 24% a positive reaction. Since then the test has been used in my laboratory as a routine in the examination of each sample of urine. My records show that since Jan. 1st, 1915 to Oct. 1st, 1926, there have been examined 15,589 specimens of urine, and I therefore feel that I have had sufficient experience with the test to form a definite opinion as to its clinical value. The results of the test are recorded as negative, 1+, 2+, up to 8+, and, inasmuch, as the readings are made by the same technician the results are more constant than in most laboratories, while the progress of liver improvement after injury to this organ can very readily be followed from the urine reports, although it is in no way a quantitative test.

Recently Wallace and Diamond[2] have devised a very simple quantitative test dependent upon the repeated dilutions of the urine in which the test is positive and the results recorded as 1:20; 1:40; up to 1:1000, according to dilution.

REAGENT.

The reagent consists of 2 gms. of paradimethylaminobenzaldehyde in 100 cc. of 20% hydrochloric acid solution. A positive test depends upon the presence in the urine of a colorless chromogen, urobilinogen, which reacts with the reagent forming a definite rose dye, with its characteristic absorption bands in the spectroscope between D and E. Inasmuch as urobilinogen readily oxidizes to urobilin, which does not give the test; freshly voided samples should be examined.

TEST.

Heat hastens the appearance of the pink or red color, and for this reason, in my laboratory this reagent is used to acidify the urine, in testing for albumin by heat, the two tests being carried out simultaneously. If albumin is present this can be filterd off or allowd to settle before reading. To 3 cc. of boiling urine in a small (½ inch) test tube is added three drops of the reagent, and in the presence of urobilinogen a rose red color appears at once. The urine is then diluted to determine the varying intensities of pink color obtained on dilution and the results recorded.

INTERPRETATION OF TEST.

Normal urines contain small amounts of urobilinogen, which is not sufficient to be detected by the naked eye but can be detected with the spectroscope. Little clinical significance can be placed in a reaction under 3 +, corresponding to 1:150 in Wallace and Diamond's[2] scale, but a reaction above this has definite clinical significance, while one of 6 + (1:1000, Wallace and Diamond) or over, has the utmost significance and is often life saving. It is interesting to note in Table I, in 500 case histories taken in alphabetical order from my files that 71% gave a negative reaction, corresponding fairly closely with the results obtained in my earlier paper[1] (76%), while 94% gave a reading under 3+; 3% had 3+; 1.8% 4+; 1% 6+. All of the six cases giving a reaction of 6+ or over, presented definite clinical evidence of greatly reduced liver function.

TABLE I.

Results of Ehrlich's Aldehyde Test in 500 cases.

Reading	Number of Cases	Percentage	
Negative	355	71.0	
+	75	15.0	
++	40	8.0	94.0
+++	15	3.0	
++++	9	1.8	
+++++	0	0.0	
++++++	6*	1.2	6.0
TOTAL	500	100.0	100.0

*I. Miss E. B., case of septic endocarditis, pulmonary infarcts, dilatation of heart and passive congestion of liver.

*II. F. C. B., case of pyelitis, sub-acute hepatitis, with enlarged liver.

III. G. C. A., case of acute hepatitis, empyema of gall bladder. At operation the liver enlarged and mottled.

IV. J. A. B., case of sub-acute hepatitis following cholecystectomy for chronic cholecystitis.

V. J. B., Ditto.

VI. E. C. B., Ditto.

Heyd[3] has repeatedly called attention to injury to the liver associated with disease of, and following operations upon the gall bladder, but in observing the diets allowed by most surgeons following cholecystectomy I am inclined to believe that this is not generally recognized. Certainly, my experience with this test bears out Heyd's contention, as a 3 + to 6 + reaction is invariably obtained, following cholecystectomy, lasting from two days to two weeks, or death, depending upon the virulence of the infection, and, I believe, to a great extent upon the diet.

It may be argued that a test which has clinical significance in only 6% of cases hardly justifies its routine employment, but a short resume of a few cases will show its importance:

Case 1. Mrs. T. F. S., 62 years old, was first seen by me in consultation with Dr. C. G. Cole on April 5th, 1923. She gave a history of having had repeated attacks of gall bladder colic, and for the previous three weeks had been having daily duodenal drainages, but had become progressively worse, running a daily temperature of 101° for four or five days. She had a leucocyte count of 20,000 with all symptoms of a septic gall bladder, but we feared operation on account of her age and the presence of 4% of sugar in her urine. At first examination her urine showed a negative aldehyde test, but within twelve hours it reacted 6 +, so that we decided upon drainage of gall bladder as the only hope of relieving the infection which had evidently spread to the liver. At operation, an empyema of the gall bladder was drained with removal of many stones. Examination of the liver, revealed a very much congested organ, which bled freely, with a mottled appearance, the lobules standing out prominently and all veins very much congested. By the use of insulin and glucose drip she made an uneventful recovery and is still living in good physical health with only an occasional dose of insulin. We might have been tempted to temporize had it not been for the sudden appearance of the aldehyde test in the urine.

Case II. Dr. W. G., 40 years old, a very busy practitioner, mentioned the fact on several occasions when we met, that he did not seem to have his former "pep" and was coming up to the office "some day" to have a physical examination. In the meantime, he suggested that I examine his urine as he thought he was suffering from intestinal toxemia. On examination his urine gave a 6+ aldehyde reaction and I telephoned him to come to the office at once. On physical examination I found this liver enormously enlarged, extending 8 inches below the costal arch, hard and sensitive. On proper diet and hygiene he had four years of comfort, work and pleasure, until he died from an acute intestinal hemorrhage.

Had he detected the aldehyde test in his urine at an earlier date, I feel sure that by saving his liver from work, the disease would have undoubtedly been retarded.

Case III. Miss E. H., 20 years old, a case of acute cholecystitis, complicating typhoid fever and pyelitis, seen in consultation with Dr. Maes. Tenderness over the gall bladder could only be elicited on deep inspiration, but nausea and vomiting seriously interfered with proper nourishing of a typhoid. A negative aldehyde test had been obtained for several days, when it suddenly appeared 6+. Interpreting this as evidence that infection had spread to the liver we decided upon surgical drainage of the gall bladder. Dr. Maes operative notes state: "The liver was very large and very red. Gall bladder small, contracted and thick walled. Aspirating needle revealed bile containing flakes of muco-pus." After the operation vomiting ceased and she made an uneventful recovery.

As early as 1874 Hoppe-Seyler[4] produced urobilinogen from hemoglobin by strong reduction, and shortly afterwards Disque[5] was able to produce it by reduction from urobilin, but little attention was paid to it until Bauer[6] in 1905 showed that the red color obtained in certain urines by the action of Ehrlich's aldehyde reagent was due to the presence of urobilinogen in the urine. The source of urobilinogen in the urine is from absorption from the intestinal canal, normally changed by the liver, but with dysfunction of this organ appearing in the urine in large amounts. Whipple[7] and his co-workers have repeatedly attacked this conception and claim there is no experimental proof that urobilin is absorbed from the intestines.

The experiments of F. Muller,[8] of Beck[9] and more recently of Wallace and Diamond,[2] however, seem to prove this conclusively. Nellis Foster[10] has also called attention to the fact that any pyrrol

derivative will give a positive test with Ehrlich's aldehyde reagent; and indol and skatol undoubtedly react similarly to urobilinogen, but indican or potassium indoxyl sulfat does not give the reaction. If these latter substances should appear in the urine unchanged their appearance denotes lack of liver function as they are normally changed by this organ, so that the value of the test as an evidence of lack of liver function is not lessened even though both Whipple and Foster are correct.

It cannot be denied that considerable damage and advanced disease of the liver may exist with a negative test, but when a strong reaction is obtained, in my experience, it has always been associated with lack of liver function, with the exception of those cases which presented evidence of hemolysis.

SUMMARY.

I. In an experience with over fifteen thousand urine examinations, extending over a period of 15 years, the Ehrlich aldehyde test has been of great value.

II. It is of clinical value in only about 6% of cases, but in these 6% it is often of the greatest value, both as to diagnosis and prognosis, and should be used, routinely, in urine examinations.

III. A tabulation of 500 cases in which the test was used is given in which it was positive in only 145 or 29%, being negative in 355, or 71%.

IV. The simplicity of the test recommends its routine employment.

V. Ehrlich's aldehyde test is invariably strongly positive after operations upon the gall bladder, suggesting injury to the liver.

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DISCUSSION.

Dr. H. W. E. Walther: It has been a great pleasure to me, for the last fourteen years, to see just how tenaciously Dr. Eustis has stuck to his convictions in the aldehyde test. Since his first paper I have been doing the test routinely on all cases coming to my office and its routine application has been of value to me. I have seen the light and appreciate very much Dr. Eustis' enthusiasm. I believe, sooner or later, he is going to receive the thanks of a great many men for opening their eyes.

I have had any number of infections, of the right kidney in particular, where I could not say definitely, or could never clear up in my own mind, whether the infection originated in the gall bladder or the liver (the left kidney being entirely negative), or whether the condition existed in the kidney primarily or in some unexplained way extended from the gall bladder and liver. In such cases the aldehyde test has proved of distinct diagnostic value. If there are any urologists (who have so many urines to handle) or laboratory men who do not do this test, I think it would be well for them to interest themselves in it.

I have never had the opportunity before of expressing my gratitude to Dr. Eustis for calling this test to my attention. I believe there is a whole lot in it—and I surely feel that it has helped many of my patients who have come in for a great many different troubles. If this test read 4 plus, they were referred to Dr. Eustis or their family physician and whenever the right treatment was directed to their condition they improved.

Dr. F. M. Johns: I fully realize that it is not the very best medical practice these days to throw bouquets to the speaker in a discussion, but in this instance at least I wish to echo Dr. Walther's eulogy of Dr. Eustis who first called my attention to the value of the aldehyde test several years ago—and from which time the test has been routine in my laboratory. I have always gone out of my way to try and apply the various laboratory findings in a practical way and I can state definitely that it is my experience that a real positive aldehyde has always been associated with a possible functional or obstructive lesion in the liver.

It has also been interesting to check the biliverdin and urobilinogen reactions of the urine against the findings in the Van den Bergh test of blood serum for liver insufficiency, and it is my opinion that biliverdin may be demonstrated in the urine with Schlessinger's test in practically all cases presenting a direct Van den Bergh. If the obstruction is not complete—or the liver function be not unduly disturbed the aldehyde reaction will be negative. Frank obstructive jaundice with bile in the urine naturally will result in a negative aldehyde test, and in these conditions the test is not of value except in a negative way.

The texts describe pernicious anemia as being one of the diseases that often shows urobilinogen in the urine. Very few of my cases have shown either urobilin or urobilingen, and in the case of the former I do not hold its presence essential as it would appear to me that pernicious anemia is a fault in blood *production* with very little evidence of actual blood destruction shown anywhere. Incidentally the old figures of pernicious anemia must be revised in the light of the modern separation of hemolytic jaundice from the old Addisonian type of the disease.

Dr. J. Birney Guthrie: In using this reagent I have not had anything like the extensive experience of others who have discussed the subject tonight. I have used it considerably, but never as a routine procedure. Some years ago, through Drs. Love and Eustis, I had the opportunity of getting an insight into its merits, and can say for it that I have never seen it applied in an undoubted condition of disease of the liver where it did not give a positive reaction.

I should thank Dr. Eustis to state in closing the source from whom, one may be certain of obtaining the reagent.

Dr. I. L. Robbins: Dr. Johns states that he used the van den Bergh liver function test, checking it with the aldehyde and that the aldehyde reaction of the urine gave him as much information as the van den Bergh.

From the little I understand about the latter test, I believe I am correct in asserting that laboratory workers claim to be able to distinguish between obstructive, toxemic and hemolytic jaundice. I would like you to tell me if the aldehyde reaction can tell us what type of jaundice we are dealing with?

Dr. Allan Eustis (closing): It is very gratifying to have this test received with so much favor. I was preparing more or less for scrap. It is particularly gratifying to find Dr. Walther, a man who is doing urology, an enthusiast, while I have had a hard time getting any of my fellow workers in internal medicine to take any interest.

An article entitled: "Hepatitis as an Associated Condition in Abdominal Infection," by Heyd, is interesting from a pathological phase and throws some light on the value of this test. In cases of appendicitis the author was struck with the frequency with which congestion of the liver was noted; quite a number of my cases of acute appendicitis have had an associated liver condition. In all abdominal infections there is an associated hepatitis.

I was very glad to hear from Dr. Johns. I know he has been doing quite a bit of work with the aldehyde reagent. Wallis & Diamond in "Archives of Internal Medicine" state that the aldehyde test gives you earlier information in regard to injuries of the liver than the van den Bergh test.

In answer to Dr. Robbins: I have had very little experience with the van den Bergh test. With the aldehyde test you cannot always tell whether you are dealing with hemolytic jaundice or obstructive jaundice. You have to look to your blood picture for that, but you can always tell when it is a case of complete obstruction. If the aldehyde reaction is negative, give them five grains of dessicated ox bile—your test will suddenly become strongly positive.

Bilirubin and biliverdin are reduced in the intestinal canal to urobilin and urobilinogen. When the liver is not functioning, they appear in the urine. So in complete obstruction you have a negative aldehyde test, on account of the absence of bile pigments in the intestinal canal. At the hospital we had a case of definite hepatitis, liver enlarged, tender, and acute gall bladder disease with jaundice. The patient was an old man of seventy-eight, hopeless from a surgical standpoint. Aldehyde test negative, but after giving him 5 grs. of ox bile, the aldehyde test was

strongly positive. A negative test is often quite as important as a positive test.

In answer to Dr. Guthrie: I have no trouble in getting a sufficient quantity of the reagent. At the beginning of the war the preparation was made entirely in Germany and I laid in a supply of four ounces. That lasted until a year ago. Since then I have been getting it from A. H. Thomas & Co. of Philadelphia. It is listed in their catalog. Getting it is merely a question of supply and demand. I. L. Lyons, or any of the wholesalers, I am sure will be glad to get it for you upon request.

Now there is one point that I want to impress on you, that is, that you may have considerable disease of the liver and have a negative aldehyde reaction. We had a case of definite carcinoma of the liver who had been running a negative aldehyde test, then gave a strongly positive 6 plus, which means that the carcinoma had invaded the entire organ and there were no longer any liver cells carrying on its function. The patient lived 3 weeks after the test showed positive.

Another case at Charity Hospital, a man apparently in fairly good health, fairly well nourished. Liver enlarged. Very strong reaction. I wondered then: How long is this man going to live? He died in three weeks from toxemia, associated with toxemia of failing liver.

A positive test is often of the greatest importance and a negative test may be equally important. Give them five grains of ox bile and if this gives you a positive test it means complete obstruction.

ERADICATION OF FOOT-AND-MOUTH DISEASE.

The methods used in eradicating the outbreaks of foot-and-mouth disease in California and Texas during 1924 and 1925 are discussed by Dr. John R. Mohler, chief of the Bureau of Animal Industry, in a new publication of the United States Department of Agriculture, an official record of the outbreaks and their final eradication.

Though intended especially for the information of livestock sanitary workers who are liable to be confronted with similar problems at any time, the conquest over this foreign malady is told in a non-technical manner and deals with methods, some of which involved unusual resourcefulness, in combatting new and perplexing difficulties.

For instance, at a critical stage of eradication work, inspectors learned that bears were invading the range in which wild deer were known to be infected with foot-and-mouth disease, there being grave danger of the deer spreading the infection. To determine whether the bears were feeding on fresh meat or whether they were feeding on deer that had died, thereby supplementing eradication work, the inspectors obtained some bears in the region and made a post-morten examination, especially of the stomach contents. The results showed deer hearts and livers that contained maggots almost fully developed, proving that the deer on which the bear had fed apparently had been dead several days.

Other problems during the outbreak included difficulties in disposing of infected herds with the results that some were buried in mine shafts in rocky regions or, as in Texas, burned by newly-developed incinerating equipment. Other herds in mountainous regions were buried in gullies, the sides of which were blasted to furnish a covering for the carcasses.

Besides these picturesque sidelights on the foot-and-mouth disease outbreaks, which occupied wide public attention at the time they occurred, the report deals with the origin of infection, quarantine problems, types of lesions, statistics of slaughter and indemnity, and steps to prevent further outbreaks. Through an official report, it recognizes the personal factors involved in dealing with emergencies of the kind discussed. The author pays tribute to the excellent co-operation of livestock owners, of State and county officials, and the willingness with which the general public made sacrifices and underwent inconvenience to help suppress the outbreaks.

The report deals also with the personal hardships endured by some of the inspectors in working long hours under adverse conditions, especially while wearing the necessary rubber uniforms during intense summer heat.

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AMERICAN COLLEGE OF PHYSICIANS.

Announcement is made that The American College of Physicians will hold its Eleventh Annual Clinical Session in Cleveland, Ohio, February 21-25, 1927. Dr. Alfred Stengel of Philadelphia is President of the College and Dr. John Phillips of Cleveland is the Chairman of the Program Committee. The program will be of unusual interest to Internists, (including Neurologists, Pediatrists, Roentgenologists, Pathologists, Dermatologists, Psychiatrists and others engaged in the field of Internal Medicine). The Cleveland hospitals and the Western Reserve University will cooperate with the College in the presentation of the program. These programs constitute each year a post-graduate week on Internal Medicine of outstanding merit.

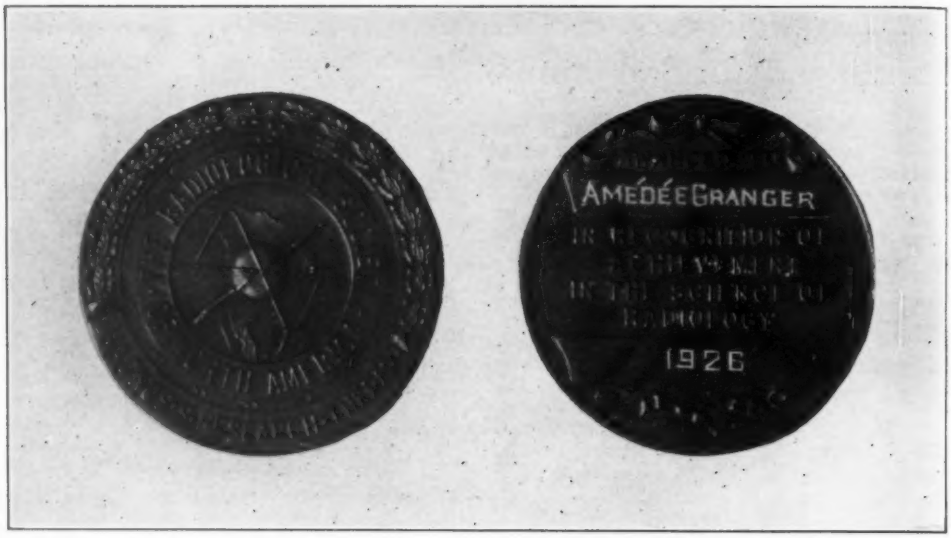
During the mornings, there will be clinics and demonstrations at the various hospitals and in the laboratories of the Western Reserve University; during the afternoons, papers on various medical topics will be delivered by local members of the profession and by members of The College from other parts of the United States and Canada; during the evenings, there will be formal addresses by distinguished guests, American or foreign, and by the President or other representatives of The College.

The American College of Physicians is a national organization in which Internists may find a common meeting ground for discussion of the special problems that concern them and through which the interests of Internal Medicine may have proper representation. Membership in this organization is limited to those in the field of Internal Medicine. While it is not a limited national society of specialists) mostly prominent medical teachers), it is not co-ordinal with large national or sectional organizations of physicians requiring no special professional qualifications. Its standards are high and many men of distinction in the profession are numbered among its members.

An invitation has been extended by The College to all qualified physicians and laboratory workers to attend the Cleveland Clinical Session. An attendance in excess of fifteen hundred is anticipated.

DR. GRANGER HONORED.

It is a privilege for us to chronicle the fact that at the recent annual meeting of the Radiological Society of North America, held in Milwaukee, Dr. Amedee Granger of New Orleans received the gold medal of the Society for his meritorious work on the sphenoid sinus. The Society confers this medal, from time to time, upon those physicians and physicists whose work in



the field of radiology has proven of more than usual value to the profession. This is the first time the South has been so honored.

Workers in the field of oto-laryngology seem unanimous in their praise of the advantages they derive from the use of the Granger sinus mask in studying the sphenoids under the roentgenograph. This is the second time that Dr. Granger has received recognition for original work. In 1921 he was decorated by the French Government with the Palmes Academiques for his inventing a new and simple means of locating bullets and other foreign bodies imbedded in human tissue.

As most of our readers know, Dr. Granger has been connected actively with the x-ray department of Charity Hospital since 1905; he was made director of this service in 1921. Since 1908 he has served on the teaching staff of the graduate school of medicine at Tulane; in 1916 he was appointed to the chair of radiology, which position he still holds. He is a chancellor of the College of Radiology; ex-president of the Orleans Parish Medical Society; honorary member New Orleans Ophthalmological and Oto-Laryngological Society; honorary member Texas Roentgen Society and collaborator of the *Journal of Radiology.*

Besides being the recipient of their gold medal, he was further honored by the Radiological Society by being elected first vice-president of that body in December, 1926. The *Journal* joins, with the legion of admirers of Dr. Granger, in congratulating him upon the honor conferred. We feel that in winning distinction for himself he has won distinction for the entire South.

HOW TO MEET THE ISSUE.

In this number of the *Journal* will be found, under the head of "Correspondence", a letter from Dr. Guy A. Caldwell, well known Orthopedic Surgeon of Shreveport, who is active in medical society affairs and always aiming at the betterment of conditions. This article, if carefully read, will be found very pregnant with ideas and closes with a very pertinent question.

In reply, the *Journal* heartily agrees with most of the thoughts embodied in Dr. Caldwell's letter; we know that the usual copies of the *Journal* are a series of "uncoordinated hodge-podge of interesting articles", but we do not feel that, necessarily, they are "unessential to the life and practice of the average doctor." Being a "general" and not a "special" journal, we feel that we are bound, more or less, to

have a jambalaya of topics in our index of each issue. What we wish to commend most in the communication, however, is the constructive criticism and we feel that his final question should be thoroughly discussed; to this end, we invite further correspondence and shall be glad to publish suggestions from our membership, provided they are signed and not too lengthy.

Does the remedy lie in special articles, carefully edited by competent men, to be published each month, in symposia before our state societies on live, every-day topics, in appropriate clinics, held in conjunction with local, district and state society meetings—or, does it lie in all of them?

CORRESPONDENCE.

Shreveport La., Jan. 10, 1927.

To the Editor:

Louisiana can justly pride herself upon having a large and well-trained medical profession, numerous hospitals of the first order well distributed throughout the State, and a good State Medical Society and Journal. And yet the Community is not being rendered prompt and efficient medical care in the very cases in which it is of utmost importance. Such cases as are ordinarily regarded as amenable to medical and surgical skill are succumbing in great numbers. A brief survey of the causes of deaths in any of the public or private hospitals will confirm this statement. A partial list of these diseases must include traumatic shock, intestinal obstruction, ante- and post-partum tragedies, ruptured ectopic pregnancy, urinary retention, cardiac decompensation, malignant tumors, compound fractures and acute suppurative arthritis. Why then has the mortality in these classes of cases not been materially reduced? Of several reasons which may be advanced, there is one upon which all agree, viz., *the failure to recognize and send such cases to the hospitals in the earliest stages* when medical and surgical measures would accomplish most.

Not only do thinking medical men appreciate this lack, but the laiety is keenly aware of it. How often does one hear the indictment uttered in mingled sorrow and bitterness, "But, doctor, had we known or been told to bring our loved one earlier, could he not been saved?" Usually the generous doctor "lies like a gentleman" to protect his brother practitioner and to lessen the self reproach of the family. Nor does the lying stop there. Too often the consultant, fearful perhaps of losing his patronage, assures the family physician "that he could not have done otherwise under the circumstances."

"The circumstances," impartially viewed, are about as follows: the family physician fails to recognize the cardinal symptoms and danger signals of a grave case early in its course, or if he does recognize them, he is not emphatic enough in his insistence that the case be carried to the hospital promptly. But is he, and he alone, to be blamed? Emphatically no! His Medical School and Hospital, his Medical Society and the Journals to which he subscribes,—in brief, all the agencies of his under-graduate and post-graduate medical education must share his responsibility. It is unnecessary and unkind to rail at the very worthy and all-important general practitioner. He is usually keenly aware of his own inadequacies. He does need and want help, and he should have it.

It is not helpful to suggest that he go away for a post-graduate course. In the first place, he cannot leave his family and practice for more than a few days at a time. In the second place, most post-graduate courses and clinics give him little or no practical help in the solution of his every day problems of making an early diagnosis through the aid of his five senses unaided by laboratories. Properly conducted clinics in connection with the State and District Society meetings might prove to be of value to him. Even so the material should be carefully chosen with the idea in view of driving home the clinical pictures of the early stages of such cases as are enumerated above.

These clinics could not have the far-reaching educational influence of articles on these subjects in the State Journal which goes to the desk of every practicing physician in the State. But is the *Journal* meeting this need at present? Not adequately. And why not? Because its articles do not follow any definite program. They are not written to and for the average general practitioners who represent the large majority of readers.

It is common knowledge that the program committees of the various sections invite men of recognized standing and ability to read papers at the annual meeting. The subject and the method of treating it is usually left to the writer. It is natural, therefore, for him to write upon the theme that interests him the most or to present results of a series of cases which will impress his audience with his knowledge and ability in that

particular line. He reads the paper and turns it over to the secretary, and such papers represent the principal source of material for the year's publication. So long as this custom and tradition is adhered to, the best that can be hoped for is an unco-ordinated hodge-podge of interesting articles which are unessential to the life and practice of the average doctor.

Some may object that such articles would necessarily be so elementary that they would not be readable, or others may suggest that these subjects are well treated in any of the standard text books. Not every one would care to read all of these, to be sure. Neither does everyone read the special articles on the eye, or some branch of orthopedics. But since more than half of the subscribers are general practitioners, it would not be amiss to plan special articles for their consumption. It is granted that they must be most carefully prepared, edited and illustrated. They must be more vital, alive, and emphatic than any text book description can possibly be. Men can be found in this State representing every specialty and competent to treat these subjects in this manner, and they should be pressed into service.

It is generally agreed that the mortality in a certain group of cases is too high, and furthermore, it is recognized that the remedy lies in education of the general practitioners in their early recognition. Then is it not high time that the State Medical Society and Journal set about meeting their obligation in the manner by adopting a definite, coordinated and constructive educational program?

GUY A. CALDWELL, M. D.

December 31, 1926.

Dr. H. W. E. Walther,
Editor, N. O. Medical and Surgical Journal,
1326 Whitney Central Building,

New Orleans, La.

Dear Doctor Walther:

In order that the Journal's file on the subject may be complete, I am sending you herewith copy of letter from the Council of the Louisiana State Medical Society, dated September 27, 1926, with copy of my reply thereto, December 30.

Very sincerely yours,

OSCAR DOWLING,
President.

New Orleans, La.,

September 27th, 1926.

Dr. Oscar Dowling, President,
Louisiana State Board of Health,
New Court Building,
New Orleans, La.

Dear Doctor Dowling:

At the last meeting of the Council and Executive Committee, in reply to your communication of May 26th, the following were the findings of the Committee:

"That it is the sense of the Council that Dr. Dowling erred in his definite unethical criticism of organized medicine represented by the Rapides Parish Medical Society made to the recognized legal opponents of this organization, by injecting his personal opinion, which is at variance with the expressed opinion of the American Medical Association of which he is a component member, at a critical time when the organization was seeking a Court injunction against a purely local ordinance intended to supercede the Federal Law, recognizing a legal and moral therapeutic remedy. Be it further resolved that copies of this resolution be forwarded Dr. Dowling and the Secretary of the Rapides Parish Medical Society."

Yours very truly,

(Signed) F. T. GOUAUX, M. D.,
Secretary Council.

December 30, 1926.

Dr. F. T. Gouaux, Councilor, Secretary Council,
Louisiana State Medical Society,
Lockport, La.

Dear Doctor Gouaux:

The conclusion of the Council, transmitted in your letter of September 27th, came during my absence.

In the findings of the Council as transmitted, I am charged with "unethical criticism of organized medicine." To anyone who has even read the affidavit made by me the misrepresentation of this charge is immediately apparent.

I made no criticism whatsoever but merely set forth my opinion as to the therapeutic value of alcohol and even in so doing pointed out that there was a difference of opinion on this point among medical men.

As for my opinion being "at variance with the expressed opinion of the American Medical Asso-

ciation," you overlooked the fact that my opinion was shared by a majority of the American Medical Association in 1917 and was reversed by only a very small margin in 1923. Moreover, you are doubtless aware of the recent decision of the United States Supreme Court on this subject wherein after a thorough canvass of medical opinion they say: "Physicians differ among themselves as to the efficacy of spirituous liquors as medicine and * * * the preponderating view is that they have no value."

In the American Medical Association Bulletin of December, I find this comment:

> "Irrespective of the views that physicians may hold with respect to the therapeutic virtues of alcohol, it is altogether improbable that they will find themselves in agreement with the majority opinion of the Court, which, in effect, denies the physician the right to use what he may believe to be best for his patient if Congress believes otherwise.
>
> "Reputable physicians can take no other course than to obey and uphold the law. If it is wrong, its weaknesses and oppressions will be developed more quickly and more clearly by its observance. Then the corrections needed can be secured."

As to the court injunction which you mention, I marvel at this being introduced as one of your exhibits in a complaint involving medical ethics. In the findings of the Council the implied issue between the Rapides Parish Medical Society and the Police Jury was the recognition of liquor as "a legal and moral therapeutic remedy." Will the records bear out this contention when apparently the basis of action was the complaint made by ten physicians in an affdavit to the Clerk of the District Court, alleging a loss of $2,500 each annually if deprived of the privilege of prescribing whiskey. If the prescribing of whiskey as a "legal and moral remedy" was the basis of action, why cloud the issue with the statement of the physicians' financial loss? Would you have it understood that it is the purpose of the Council to offer such evidence as this in defense of "organized medicine represented by the Rapides Parish Medical Society," whose ethical conscience has been shocked by my statement of personal opinion as a public servant in response to a request from a local official agency? "Consistency, thou art a jewel!"

The Council say I "erred". If I did so it was in an effort to uphold the dignity of the medical profession and organized medicine.

Very truly yours,

OSCAR DOWLING.

TRANSACTIONS OF ORLEANS PARISH MEDICAL SOCIETY

The Board of Directors has held one meeting and the Society has held one Installation Meeting and one joint meeting with the New Orleans Gynecological and Obstetrical Society during the month of January.

The meeting of the Board of Directors was a joint one of the Old and New Boards. Nothing of importance to the Society as a whole came up at this meeting.

At the Installation Meeting the program was as follows:

Annual Report of Secretary, Dr. H. Theodore Simon.

Annual Report of Treasurer, Dr. John A. Lanford.

Annual Report of Librarian, Dr. Daniel N. Silverman.

Reports of the following Standing Committees:

Scientific Essays Committee, Dr. Emmett L. Irwin, Chairman.

Judiciary Committee, Dr. Chas. Chassaignac, Chairman.

State Medicine and Legislation Committee, Dr. Homer Dupuy, Chairman.

Auditing Committee, Dr. Foster M. Johns, Chairman.

Condolence Committee, Dr. A. C. King, Chairman.

Hospital Abuse Committee, Dr. A. E. Fossier, Chairman.

Finance Committee, Dr. John A. Lanford, Chairman.

Publication Committee, Dr. H. Theodore Simon, Chairman.

Periodic Health Examinations, Dr. Lucien LeDoux, Chairman.

Annual Report of Retiring President, Dr. Maurice J. Gelpi.

Annual Address of Incoming President, Dr. A. E. Fossier.

Annual Address by Dr. Joseph Reviere, of Paris, France.

Dr. Reviere is a pioneer in physiotherapy and has been traveling over the United States following the meeting of the Radiological Society of North America recently held in Milwaukee.

Installation of the following officers:

President—Dr. A. E. Fossier.

First Vice-President—Dr. John F. Dicks.

Second Vice-President—Dr. C. Grenes Cole.

Third Vice-President—Dr. E. L. King.

Secretary—Dr. H. Theodore Simon.

Treasurer—Dr. John A. Lanford.

Librarian—Dr. Daniel A. Silverman.

Additional members Board of Directors:

Dr. Frederick L. Fenno

Dr. Maurice J. Gelpi

Dr. Emmett L. Irwin

Announcement of the following appointments of Chairmen of Standing Committees:

Dr. Jerome E. Landry, Chairman, Judiciary Committee.

Dr. Leopold Mitchell, Chairman, Scientific Essays Committee.

Dr. J. T. Crebbin, Chairman, Auditing Committee.

Dr. Daniel J. Murphy, Chairman, Condolence Committee.

Dr. Jules E. Dupuy, Chairman, State Medicine and Legislation Committee.

Dr. F. R. Gomila, Chairman, Librarian's Report Committee.

Dr. Lucien Fortier, Chairman, President's Report Committee.

Dr. R. D'Aunoy, Chairman, Treasurer's Report Committee.

Dr T. A. Maxwell, Chairman, Secretary's Report Committee.

Dr. L. M. Provosty, Chairman, Hospital Abuse Committee.

Dr. Daniel N. Silverman, Chairman, Library Committee.

Dr. Lucien LeDoux, Chairman, Louisiana State Medical Society Convention Committee.

The following resolutions proposed by the Condolence Committee were adopted:

Whereas: By the Will of God, Dr. Hamilton P. Jones and Dr. John F. Oechsner, our Confreres, were taken from among us.

Therefore be it resolved: That this Society desires to express to the families of Dr. Jones and

Dr. Oechsner its regret and sincere sympathy in their bereavement.

The joint meeting held with the New Orleans Gynecological and Obstetrical Society: At this meeting Dr. Jennings C. Litzenberg of Minneapolis read a paper on "Truth and Fiction About the Endocrines in Obstetrics and Gynecology."

Dr. E. L. King, Chairman of a Special Committee, read a report "A Study of Cesarean Section Performed in Hospitals of New Orleans from 1921 through 1926."

Dr. John F. Oechsner, a member of this Society, died December 23, 1926

The Membership of this Society to date is 485.

REPORT OF TREASURER

December

Actual Book Balance 11/30/26:	$1,350.77
Receipts during December:	$ 633.39
	$1,984.16
Expenditures:	$ 769.60
Actual Book Balance:	1,214.56
Outstanding Checks:	$ 464.00
Bank Balance 12/30/26:	$1,678.56

REPORT OF LIBRARIAN.

December.

One bibliography has been prepared during the month on the subject:

Gunshot Wounds of the Abdomen 1918—date. This list has been filed for subsequent use.

Eighty-two (82) volumes have been added to the Library. Of these 43 were received by binding, 22 from the New Orleans Medical and Surgical Journal, 3 by purchase and 14 by gift.

The Library has been the recipient of book gifts during the month from Dr. John Lanford and Dr. P. B. McCutcheon. A list of titles of recent date is appended:

Lowsley & Kirwin. Textbook of Urology. 1926.
Shattuck—Principles of Medical Treatment. 1926.
Lereboullet—La grippe. 1926.
Mayo—Thyroid gland. 1926.
New England Mutual Life Insurance Co.—Life Insurance Medicine. 1926.
International Medical Annual. 1926.
Dock—Materia Medica for Nurses. 1926.
Stopes—Human Body. 1926.
Schalek—Fundamentals of Dermatology. 1926.
Anders—Medical Diagnosis. 1925.
Lobenstine—Prenatal Care. 1926.
Crothers—Nervous System in Childhood. 1926.
Holt—Diseases of Infancy and Childhood. 1926.
Peck—Ears and the Man. 1926.
Practical Medicine Series—General Medicine. 1926.
Ellis—Elements of Pathology.
Hajek—Nasal Accessory Sinuses. 2 v. 1926.
Garrison—Anatomic Illustrations Before Vasalius. 1926.
Deaver—Surgical Anatomy of the Human Body. v. 1. 1926.
Balyeat—Hay Fever and Asthma. 1926.
Crile—Bipolar Theory of Life Processes. 1926.
American Pediatric Society. Transactions. 1925-1926.
American Neurological Association Transactions. 1926.
Rockefeller Foundation Annual Report. 1926.
Mayo Clinic—Index of Collected Papers. 1926.

H. THEODORE SIMON, M. D.,
Secretary.

TRANSACTIONS OF THE JOINT CLINICAL MEETING OF THE ORLEANS PARISH MEDICAL SOCIETY WITH THE CHARITY HOSPITAL STAFF HELD SEPTEMBER 27th, 1926.

I.

Dr. Walter J. Otis.

THE INCIDENCES OF THE BODILY DISEASED IN THE PSYCHOSES.

In presenting this case I do so with the hope that others interested in neuropsychiatry may be forthcoming with data.

We are taught that in all of the psychoses the type with the highest percentage of recovery is the manic depressive group; that in certain types of this group the duration of illness is prolonged with marked changes in the psycho-motor sphere and that among causes of auto-intoxication plus psychic factors. It has been my experience in many cases to note that intercurrent bodily diseases, especially of the pneumonia type when occurring in these cases, have a tendency to hasten their recovery when the type of psychosis has been termed recoverable. In my opinion this is due to leucocytic changes in the blood plus a stabilizing of the metabolic processes due to institutional or intelligent care and treatment which these patients as a rule do not receive in their homes.

In this case of the manic depression we are dealing with a white female industrial worker who has lived in a furnished room locality in the poorer section of the city, with long hours, laborious constant duties which are nerve racking. The abstract of her history is as follows:

Abstract of Case.

White female, 48 years of age, widow; catamenia ceased two years ago. Admitted 8/11/1926, with the history of not feeling well some time previous to acute onset of present illness. Remained away from work one month ago due to a mild depression, feeling weak, having hot and cold spells with cold perspiration, nervous, would walk the floor and rub her hands, could not keep them still. Had to be forced to sit down. Had a slight remission for a day then a recurrence with agitated depression, would remain in one place almost mute until forced to move.

On admittance she was depressed with a mild agitation and depressed facial expression. Suggestive agitation by sighing as though in mental anguish. She later developed bilateral lobar pneumonia. Spoon fed by nurse. Blood picture 8/13/1926, was as follows:

Total red blood cells	5,725,000
Total white blood cells	15,250
Small monos	10%
Large monos	4%
Eosinophiles	0
Basophiles	0
Neutrophile	86%
Pathologic cells	None

Blood Wassermann was negative on 8/16/1926, likewise blood culture showed no growth. On 8/17/1926, spinal fluid and Wassermann of fluid urinalysis were negative. She ran a definite course of lobar pneumonia with the necessary supportive and symptomatic treatment. Her reduction of temperature was by crisis following which she commenced to adjust herself, ask questions, converse with other patients and appear more cheerful. About this time she experienced furunculosis mild which promptly responded to treatment. On 9/24/1926, the blood picture was as follows:

Total red blood cells	5,250,000
Total white blood cells	2,500
Hemoglobin	80%
Small monos	22%
Large monos	6%
Eosinophiles	1%
Basophiles	1%
Neutrophile	70%
Pathologic cells	None

No malaria plasmodia found

Marked improvement in her psychic and physical morale followed.

On 9/30/1926, she was up and about the ward assisting in ward duties, making sponges, etc. She was discharged 10/18/1926, as a social recovery from N. P. standpoint and markedly improved from her bodily disease. The last report received was to the effect that this patient was adjusting very well outside.

Diagnosis: Manic depressive psychosis depressed phase. Recovered for this attack.

Complications: Pneumonia, lobar, bilateral. Recovered.

Ward No. 302

RENAL CALCULI APPEARING IN COLORED FEMALE PATIENTS.

II. Case No. 1.

Dr. A. Mattes

This colored girl was admitted to the hospital August 24th, with the diagnosis of left renal calculi. She had been referred from the medical clinic to the G. U. clinic with the diagnosis already made. Dr. Smith can give you the details as to what she was complaining of and how long she was treated by him. The x-ray pictures show two large stones in the pelvis of the left kidney, with evidence of retention and three small ones in the lower calyx. She was operated on and a nephrolithotomy performed and the calculi removed. Of the three calculi in the calyx, two were removed. We did not know whether we had washed the last one out or not, or if she had passed it, but a subsequent picture shows it has descended into the ureter and it is only a question of time before it will pass. (This stone was passed ten days later.)

The only reason for presenting this case is the fact that I presented another case at an earlier meeting this year, making the second case of renal calculi in the female colored. The question was asked about the rarity of this condition. I know of three cases in the colored male. They are to be shortly reported before the Southern Medical Association Meeting.

DISCUSSION.

Dr. J. W. A. Smith: This patient was first seen by me in the Medical Clinic about four years ago. Clinically, the history was that of duodenal ulcer. Pain about four hours after eating, relieved by soda and food. Radiologist's diagnosis was reported as duodenal ulcer with irregularity.

She was sent into the ward and placed on observation for three or four weeks, but did not improve very much. Did not see her again until about six months ago when she reported to the clinic. In the course of the examination gastro-intestinal x-ray was made. The report was that little or nothing was found in the gastro-intestinal tract, but that there was a large, irregular calculus in the left kidney. The point of particular interest is that the clinician usually always looks at the x-ray picture. I believe I failed, in the first instance, by not comparing the picture with the history of the case for, going over the radiologist's report of three years ago, the calculus is just as apparent as in the pictures made five or six months ago.

Dr. Monroe Wolf: Sorry I did not know Dr. Mattes was to report these cases. We have had under observation at Touro Infirmary for the past two years a colored female with bilateral renal calculi. Since that time I have gone through the records of the Surgeon General's Library and the Index Medicus and could not find any case of calculi recorded in the colored, male or female. I think it is interesting that we have had these three cases in the last two years. Going over the files in the hospital since 1907, there have been five or six cases reported. Going through six to seven thousand cases at Touro Infirmary the case I mention was the only case found in the colored race. The woman had refused operation up until about two months ago, when she was last seen.

In answer to Dr. Jamison's question as to whether this patient was a negro or a mulatto, will say that she is black.

Dr. Allan C. Eustis: I think Dr. Smith opens up a broad field with reference to stomach symptoms. I shall never forget the humiliation I felt 12 years ago when I referred a case to Dr. Parham for gastro-enterostomy for duodenal ulcer and, on operation, a large peri-renal abscess was found. The man had no temperature and a normal blood count.

The point I want to bring to the attention of the society is that in renal cases we often have symptoms referable to the stomach.

CHRONIC MYCOTIC INFECTIONS OF THE RECTUM.

II. Case No. 2.

Dr. A. Mattes

Since the advent of Dr. Castellani in New Orleans, interest in tropical medicine has been greatly stimulated, and numbers of cases have been presented for diagnosis that formerly were overlooked. In our service we have been much wrought over a condition of which we see one, two or three cases a year. It is quite a problem to cure this condition. This colored woman came in with the diagnosis of carcinoma of the rectum and multiple stricture and fistula. That is the diagnosis one would make looking at it, but what it really is, I do not know. The disease started about eight years ago, at the age of 40, with a small pimple at the side of the rectum. The pimple was picked and pus formed. She then came to the clinic where she was advised to wash herself with boracic acid and told that her blood was "bad". She states that her husband had a "bad" disease and she thinks that he made her sick. There are no aches or pains except in the right leg where she has a so-called boil. There are no urinary symptoms. The lesion is about the anus partly obstructing the rectum and extends upwards for several inches. The mucosa is not involved but is distorted by the dense infiltration about it. The lesion extends to the buttocks and down the thigh. There are numerous small to large abscesses and sinus tracts. The Wasserman reaction is negative. Rush diagnosis is negative for malignancy. It is not carcinoma of the rectum. It is a tropical disease probably mycotic in origin. The laboratory in this case and in all previous has been unable to label the diagnosis. All reports are negative. The operative treatment is to open widely, curette and pack. Medication is tartar emetic, anti-leutic measures and cleanliness.

DISCUSSION.

Dr. R. W. Mendelson: We have in Siam many of these chronic mycotic infections. The exact diagnosis depends upon laboratory assistance, such as isolating the fungus and then run same through sugars. We treat these chronic fistulous cases by excising the entire infected tract. This case corresponds to cases we see in Siam.

Dr. A. Mattes (closing): This woman spent a few months in Cuba, but the majority of the patients of this type were born and raised in this community. The last patient became tired of waiting for a diagnosis and getting no treatment and deserted.

This patient that was presented deserted the day following the above.

ANEURISM OF THE COMMON CAROTID ARTERY CURED BY OCCLUSION OF ARTERY WITH ALUMINUM BAND.

III. Case Report.

Lucian H. Landry

This patient is being presented to illustrate a very serious condition which was cured by a comparatively simple surgical procedure.

He was admitted to the hospital some four weeks ago, was studied by Dr. Matas, who would have operated the case, but he was compelled to make a Canadian trip, so the patient was kindly referred to me for operation.

In planning the surgical procedure, Dr. Matas pointed out that an aluminum band applied to the common carotid just below the cite of the aneurism, tight enough to occlude the vessel, would act as a ligature and at the same time would not traumatize the intima. This is most important, for should the patient show signs of cerebral anemia, the aluminum band could be removed and the artery restored to its normal function, whereas, if a ligature be applied tight enough to cut off the circulation, the artery becomes irreparably damaged and unfit for future use.

It has been shown that the aluminum band can be applied to a vessel and compressed enough to completely occlude the vessel without causing any endarteritic changes up to 72 hours.

Should symptoms of cerebral anemia present following the application of the band, these symptoms will be found occurring within the first 12 hours, and usually earlier. A close watch is put on the patient for the first day and any signs of partial hemiparesis is an indication for the removal of the band,—which restores the cerebral circulation and the hemiparesis gradually clears up.

We have had to remove the band in some four or five cases where the common carotid was occluded for various reasons, and the symptoms of cerebral anemia have always appeared within the first six to eight hours.

The surgical procedure is comparatively simple and consists of exposing the common carotid artery (under local anesthesia) just below the aneurismal dilatation, where a band of aluminum, as wide as the caliber of the artery, is passed around the vessel and gently pressed with the fingers until the distal pulse is obliterated. A clamp may be used to obtain uniform compression, and the excess of aluminum band cut off with a suitable instrument. The wound is closed with interrupted sutures without drainage and a simple sterile dressing applied over the wound.

This is the procedure that we carried out on this patient on September 15th; he has shown no untoward symptoms since the operation. When he was admitted to the hospital there was a vigorous pulsation in the tumor (occupying the bifurcation of the carotid) about the size of a hen's egg, but this tumor has been absolutely stilled since the application of the band. The pulse in the temporal and facial arteries was also obliterated and has only returned (to a less extent than on the opposite side) in the past two or three days.

This is the twelfth day following the operation; the patient shows a slight wound that is perfectly healed and he is ready to return home.

*From the Department of Surgery, Tulane Medical School.

SOME GASTRIC DEFORMITIES.

IV.

Dr. Emmett Irwin

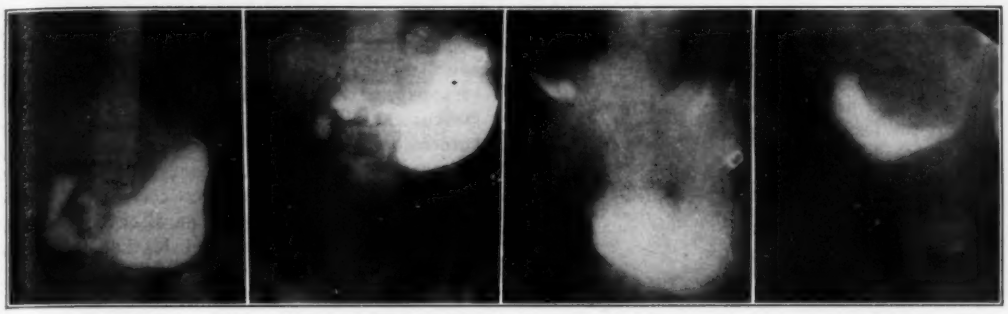
The series of plates here presented demonstrates some of the extremely interesting deformities dealt with in persons suffering from gastric disturbance and how easily one may be misguided in his conclusions when the opinion is based solely upon the radiograph.

Case I. Colored female, 30 years of age, suffered from gastric disturbance for three years and vomiting past three months, accompanied by marked loss in weight.

Patient weak, emaciated and anaemic. Palpable mass size of duck's egg beneath right costal margin in region of pylorus which is freely movable and tender to pressure. Roentgenograph shows marked gastric deformity in region of pylorus with retention. *Diagnosis*: Carcinoma of Stomach (Pylorus).

From the information at hand it was doubtful as to the value of operation but exploration was advised and preparation made for resection. Using Posterior Splanchnic Analgesia (Irwin-Kappis method) supplemented by Braun's ventral block, the abdomen was opened, finding a freely movable mass as described above. This involved the Pylorus with two enlarged lymphatic nodules adjacent to the Pars Intermedia and within the lesser omentum, but there was no metastasis to the liver. Resection was performed removing a portion of lesser omentum and effecting a Gastrojejunostomy after Finsterer's technique.

Case II. A white male, about 45 years of age, presenting gastric symptoms of one year's dura-



CASE I. CASE II. CASE III. CASE IV.

Case I. Deformity due to Carcinoma of Pylorus. Resection performed.

Case II. Deformity due to Carcinoma of Pylorus and Pre-pyloric area along greater curvature. Hepatic metastasis making resection of no benefit. Gastro-jejunostomy performed.

Case III. Deformity from extra gastric pressure at pylorus produced by hepatic enlargement from Primary Carcinoma of Liver.

Case IV. Deformity from extra gastric pressure at pylorus and lesser curvature produced by hepatic enlargement from diffuse Syphilitic Hepatitis.

tion without vomiting and only slight loss in weight.

Patient's general condition fair. A palpable freely movable and tender mass was present in the epigastrium. Roentgenograph shows definite and persistent deformity along greater curvature of stomach in the region of Pylorus.

Diagnosis: Carcinoma of Stomach (Pylorus).

It was thought this case would lend itself nicely to resection so an exploration was effected with the aid of Splanchnic Analgesia. To our sorrow there was already metastasis to the Caeliac Glands and Liver. Therefore only a palliative Posterior Gastro-jejunostomy was performed.

This case is in marked contrast to the preceding one though both are Gastric Deformities due to Gastric Lesion (Pyloric Carcinoma).

Case III. A colored adult male, apparently 50 years of age, suffering from gastric distress for four months, being more aggravated recently.

There was no loss in weight but the liver was generally enlarged downward reaching beneath the costal margin to the extent of four finger breadths and possessing soft somewhat fluctuant nodules on its surface. Roentgenograph shows a large markedly dilated stomach with evidence of considerable secretion and pyloric obstruction with retention.

Diagnosis: Carcinoma of Pylorus, with obstruction and metastasis to the liver.

Laparotomy with Local Analgesia revealed no gastric lesion whatever but the pressure defect at the pylorus was due to enlargement of the liver which organ was almost completely destroyed by semi-fluctuant cystlike nodules. A section from one of these showed Primary Carcinoma of the Liver.

Case IV. A colored male, 25 years of age, who has suffered from gastric disturbance for the past year. There was both nausea and vomiting but no loss in weight. Symptoms are increasing in severity.

The entire epigastrium was filled with a mass which had a sharp irregular edge extending to the iliac crests laterally and to the umbilicus in the median line. The mass was firm to pressure and slightly tender. This mass gave the impression of the coming together of an enlarged liver to the right and center and a spleen to the left. Fluoroscopy revealed elevation of the entirre diaphragm and movement of the mass on and with respiration. Roentgenograph shows a queerly deformed stomach evidently produced by extra gastric pressure. The Wassermann reaction was strongly positive. The symptoms promptly disappeared and the mass rapidly diminished upon institution of active anti-syphilitic treatment.

Diagnosis: Acute diffuse Syphilitic Hepatitis and Spleenitis.

Cases I and II present Gastric deformities produced by definite Gastric Lesions while Cases III and IV present Gastric deformities equally as marked but produced by Extra Gastric Lesions.

These are only a few cases from a large class but it is believed the following points are clearly shown:

1. The X-ray is of great assistance in gastric diagnosis.

2. The X-ray is often misleading.

3. The X-ray findings should be regarded as added information in the chain of evidence and utilized in conjunction with the clinical data.

4. One is never absolutely certain of the extent of the lesion or nature of the operative procedure possible.

5. Exploration is only procedure fair to the patient and should be advised.

DISCUSSION.

Dr. Eustis: The interest of the internist in carcinoma of the stomach after the diagnosis has been made, is in prolonging the life of the patient with as little discomfort as possible. I believe that many surgeons after finding an apparently inoperable carcinoma as far as resection is concerned, close up the abdomen with no relief to the patient. If the greater curvature of the stomach is not involved in the growth, draining the stomach by gastroenterostomy will often give these patients complete comfort from one to three years. They often gain in weight and the gastric symptoms disappear. I recall one case in particular, a man about fifty-four years of age, operated upon by Dr. Stone, with carcinoma of the pylorus and involvement of all the lymphatic glands revealed at the operation. He was very emaciated and had been suffering intense pain after meals. The macroscopical diagnosis was so apparent that no glands were removed for microscopical diagnosis. We decided upon gastroenterostomy, and after recovery from operation he was free from pain, gained thirty pounds in weight, and lived in complete comfort for two years, when he died from general carcinomatosis. The point to be remembered is that symptoms of carcinoma of the stomach are caused by involvement of the pylorus and failure of the stomach to empty itself, so that gastroenterostomy will relieve these symptoms by overcoming the obstruction to the passage of food.

Dr. H. B. Alsobrook: I saw a similar case of carcinoma of the stomach on which a gastroenterostomy was done. He was a laborer for the railroad. He was up and relieved and worked for 14 months after operation, and finally died.

Dr. Emmett Irwin (closing): I thank Dr. Eustis for his valued discussion and I agree with his views with reference to palliative procedures in so-called inoperable Carcinoma of the Stomach. In all cases exploration should be performed and the surgeon should give what relief may be possible even though a cure can not be hoped for.

LOUISIANA STATE MEDICAL SOCIETY NEWS

H. Theodore Simon, M. D., Associate Editor.

LOUISIANA STATE MEDICAL SOCIETY BULLETIN.

The Committee on Scientific Essay of the Louisiana State Medical Society wishes to announce that active plans have been instituted for the arrangement of an unusual Scientific Program at the approaching meeting to be held in New Orleans, April 26th, 27th and 28th, 1927. From results already obtained, they have reason to feel that several innovations will be introduced in the arrangements of the Scientific material which they hope will prove satisfactory and profitable to all the members.

The State Medical Society, meeting as it does in New Orleans, always looks forward with a great deal of anticipation to this opportunity. Members of the Society who have been fortunate enough to attend the sessions held in New Orleans, have always left feeling well repaid for their visit to the Crescent City.

The early appointment by the President of the Orleans Parish Medical Society of a Committee on Arrangements indicates that plans for the entertainment of the guests will be well taken care of, and that each and every one may expect to have a pleasant time.

The State Medical Society has enjoyed unusual activity during the past year. Our efforts in the stimulation of interest in organized medicine culminated in the visit of Dr. Morris Fishbein, Editor of the Journal of the American Medical Association, and quite an authority on many phases of medicine and its organization. No doubt this will prove to be one of the best years enjoyed by the Louisiana State Medical Society. This has not only been manifested by increase of individual interest, but numerically the State Society reached its highest pinnacle during 1926, the enrollment being 1301 physicians. While this record is one to be commended, yet we have not accomplished what we should in having physicians recognize the benefits to be received by being members of the State Medical Society. However, we feel that the unusual interest in medical organization will reflect in a manner to increase our numerical strength.

The above is intended simply as a foreword to urge and insist that every member of the State Society begin at an early date to make plans for attending the Annual Meeting in New Orleans. Unquestionably there will be many forms of scientific entertainment to interest one. If plans are successful, we hope to be able to have an interesting clinical and scientific exhibit, which has always characterized the New Orleans Meeting.

Don't forget the date, April 26th, 27th, 28th, 1927, and let nothing but the unusual prevent your attendance.

CHAIRMEN OF SECTIONS.

The following Chairmen of Scientific Sections for the approaching meeting of the Louisiana State Medical Society, New Orleans, April 26th, 27th and 28th, 1927, have accepted their appointment by the President:

Medicine and Therapeutics—Dr. W. S. Kerlin, Shreveport.

Pediatrics—Dr. E. R. Yancey, Monroe.

Nervous Diseases—Dr. T. J. Perkins, Jackson.

Bacteriology and Pathology—Dr. J. A. Lanford, New Orleans.

Public Health and Sanitation—Dr. J. W. Faulk, Crowley.

General Surgery—Dr. Emmett L. Irwin, New Orleans.

Gynecology and Obstetrics—Dr. Hilliard E. Miller, New Orleans.

Eye, Ear, Nose and Throat—Dr. J. P. Leake, New Orleans.

Urology—Dr. E. K. Hirsch, Baton Rouge.

Radiology—Dr. Lucien A. Fortier.

Those desirous of reading papers should communicate with the various Chairmen as promptly as possible. The program for each Section must be in the hands of the Secretary-Treasurer not later than February 26th.

COMMITTEE ON ARRANGEMENTS.

Dr. Lucien A. LeDoux was appointed Chairman of the Committee on Arrangements by the Orleans Parish Medical Society.

COMMITTEE ON SCIENTIFIC ESSAY.

Following is the Committee on Scientific Essay for the approaching meeting of the Louisiana State Medical Society:

Dr. P. T. Talbot, Chairman; Dr. A. E. Fossier, and Dr. Elizabeth Bass.

SPECIAL ATTENTION.

Dues for the Louisiana State Medical Society for 1926 should be paid in advance. Those mem-

bers in unorganized parishes should send their $4.00 direct to the Secretary-Treasurer of the Louisiana State Medical Society, 1551 Canal Street. Medical Defense begins from the time the dues are received by the Secretary-Treasurer. Your prompt attention and co-operation is requested.

P. T. TALBOT, Secretary-Treasurer.

The eighth annual fall meeting of the Sixth District Medical Society was held at U. S. Marine Hospital, No. 66, at Carville, La., Dec. 10th, 1926.

The following members were present: Doctors Cayzaux, Lorio, Becnel, Bulloch, Farmer, LeBlanc, Toler, Shaw, Duchein, Martin, Thom, Rougon, Hensley, Eidson, Wolfe, McGuffey, Carruthers, Heidensfelder, Paine, Williams, Weiss, Singleton, Polk, Hirsch, Jones, Robert, Lee, Perkins, Carruth, Sewell, Foreman, Wallace, Wooley, St. Dizier, McCaa, Major, Tyler, Jackson, Mayline, Tucker, Barrera, Young, Charlet, Brumfield, False, Hanson, Grace, Lea, Buquoi, Jones, Clay, Riche, Davis and Skinner.

As guests of the Society it was a pleasure to have the following Doctors with us: Morris Fishbein, Blackshear, Gessner, Pehran, Spencer, Welch, Anderson, Johansen, Horton and Chisolm.

After the usual order of business, a very interesting and scientific program was presented.

Dr. Morris Fishbein addressed the members of the Society on the Progress of Medicine. So fluently did the Doctor speak, and so thoroughly conversant was he with his subject that his audience sat spellbound, regretting the all too sudden termination of the Doctor's address and his hasty departure. There is no doubt that even though Dr. Fishbein was with us but a few short moments, his visit has helped to awaken renewed interest in medical ideals.

The remainder of the Scientific Program was a symposium on Leprosy presented by the following doctors connected with the Leprosarium:

SCIENTIFIC PROGRAM.

Address—Dr. Morris Fishbein, Editor, Journal of the American Medical Association. "Progress of Medicine."

"Bacteriologic and Histologic Aspects of Leprosy"—Dr. O. E. Denney. (Lantern slide demonstration.)

"Leprosy, Complicated by Syphilis and Hypernephromatosis." Report of a case—Dr. D. G. Wooley. (Lantern slide demonsrtation.)

"Surgical Aspects of Leprosy"—Dr. B. G. Barentine. (Lantern slide demonstration.)

"Medical Aspects of Leprosy"—Dr. F. A. Johansen. (Lantern slide demonstration.)

"Pyorrhea Alveolaris in Lepers"—Dr. B. M Prejean.

A most enjoyable luncheon was served by the Sisters of Charity and the ladies of Carville.

After the lucheon the members were shown over the institution and the workings of various departments demonstrated.

At the regular monthly meeting of the Shreveport Medical Society on January 4, 1927, the following resolutions were adopted:

Resolved, by the Shreveport Medical Society, in regular session, January 4, 1927, that we heartily endorse and commend the frank and manly stand taken by Coroner Carter and the gentlemen of Bossier Parish comprising the Coroner's jury, in denouncing and recommending for proper punishment those whom they consider, by neglect of medical care, to the death of a poor, defenseless child.

We feel that, in this age of cultism, in spite of the steady advance of scientific medicine, it behooves us to be frank and above board in matters of this kind; we should "call a spade a spade," and if so called "Christian Science" is responsible for neglect in this case, words should not be minced in denouncing the crime. Convictions in such affairs have been obtained in other states, and we feel that this one should be pushed to the limit; it is reported that mitigating circumstances may be put forward to thwart justice in this instance, and so, even though no conviction be obtained, we feel that it should prove no discouragement, but rather a spur to officials, to expose such ridiculousness whenever it contributes toward the loss of life.

Resolved further, that a copy of these resolutions be furnished to Dr. Carter, to the daily press, and to the New Orleans Medical and Surgical Journal for publication.

The St. Tammany Parish Medical Society held its annual meeting, installation of officers and banquet at Slidell on the night of January 14th.

The honor guest, Dr. E. Denegre Martin, of New Orleans, led a Round Table Talk on "Industrial Surgery and Kindred Subjects," the entire membership participated in the discussion and enjoyed it and a delicious repast to the fullest extent.

The following officers were installed for the year 1927: President, Dr. C. F. Farmer; Vice-

President, Dr. F. F. Young; Secretary-Treasurer, Dr. H. D. Bulloch (re-elected for the seventh consecutive term); Delegate to the Louisiana State Medical Society, Dr. A. G. Maylie; Alternate, Dr. J. K. Griffith.

The next meeting will be held at Covington on Friday, February 11, 1927.

Dr. Leon J. Menville has been appointed Chairman of the Legislative Committee of the Radiological Society of North American by the President of that Society.

MINDEN SANITARIUM.

Minden's high class new Sanitarium was dedicated and opened for business in December. It reflects great credit upon the profession and the community of that thirving little city and of Webster Parish.

Preceding the formal opening, a banquet was served in the basement of the First Baptist Church, at which Rev. Tripp was toastmaster. There was a large and representative attendance of Minden people and many physicians from other points in North Louisiana. Dr. S. F. Martin is President of the company.

TRI-STATE MEDICAL SOCIETY.

The Tri-State Medical Society of Arkansas-Louisiana-Texas held its 22d Annual meeting in Texarkana on Jan. 19-20. The following program was carried out:

Wednesday, January 19th, 1927.

9:30 o'clock

Call to Order by President, Dr. Frank S. Littlejohn, Marshall, Texas.

Invocation, Rev. J. S. Sleeper, Texarkana, U. S. A.

Welcome Address, Hon. M. E. Melton, Secretary, Chamber of Commerce, Texarkana, U. S. A.

Welcome Brothers, Dr. H. E. Murray, Texarkana, U. S. A.

President's Address, Dr. Frank S. Littlejohn, Marshall, Texas.

Scientific Program.

Chlorine Gas in the Treatment of Respiratory Diseases, Dr. J. W. E. Beck, DeKalb, Texas.

Tubercular Peritonitis, Dr. Charles H. Mosely, Monroe, La.

Differential Diagnosis in Appendicitis, Dr. Joe Beckton, Greenville, Texas.

Prenatal Care as Regards Eye and Ear, Dr. E. H. Carey, Dallas, Texas.

Interpretations of Post-Operative Symptoms, Dr. J. M. Bodenheimer, Shreveport, La.

Nephrectomy for Hydronephrosis in Five Months Old Infant, Dr. Edwin L. Beck, Texarkana, U. S. A.

Afternoon Program.

2 o'clock

Ocular Disease in Association with Nondysenteric Amebiasis, Dr. L. Hebert Lanier, Texarkana, U. S. A.

Infantile Eczema a Cold Weather Allergy, Dr. M. S. Picard, Shreveport, La.

High Mortalities in Malignacies and Its Reduction, Dr. A. C. Scott, Temple, Texas.

Opertion of Hip Joint with Moving Pictures, Dr. J. S. Speed, Campbell Clinic, Memphis, Tenn.

Blood Pressure, Dr. T. E. Wright, Monroe, La.

Some Remarks on the Diagnosis of Pulmonary Tuberculosis, Dr. A. A. Herold, Pres.-Elect Louisiana State Medical Society, Shreveport, La.

X-Ray Examination of the Gastro-Intestinal Tract, Drs. Barrow and Harwell, Shreveport, La.

Thursday, January 20th, 1927.

Ocular Manifestations of General Diseases, Drs. Caldwell and Mahoney, Little Rock, Ark.

Some Observations on the Crytalline Lens, Dr. John O. McReynolds, Dallas, Texas.

Rheumatic Heart Disease, Dr. M. A. Mortensen, Battle Creek, Mich.

The Value of Ultraviolet Irradiations on General Diseases Influencing the Ear, Nose and Throat, Dr. A. R. Hollender, Chicago, Ill.

The Value of Punch Operation for Bladder Neck Obstructions, Dr. John R. Caulk, St. Louis, Mo.

Some More Uncommon Lesions of the Sinuses, Dr. F. E. LeJeune, of New Orleans, La.

Minor Methods in Major Surgery, Dr. C. M. Rosser, Dallas, Texas.

A Case of Inoperable Malignancy of the Tonsil, Dr. John L. Scales, Shreveport, La.

Afternoon Program.

Tuberculosis, Dr. Sam Thompson, Kerrville, Texas.

Present Treatment of Bladder Tumors, Dr. Grayson Carroll, St. Louis, Mo.

Traumatic Rupture of the Bladder, Report of Three Cases, Dr. Barron Johns, Shreveport, La.

Differential Diagnosis and Treatment of Osteomyelitis and Acute Arthritis, Dr. Guy A. Caldwell, Shreveport, La.

The Treatment of a Fibroid Uterus, Dr. John A. Hendrick, Shreveport, La.

Contagious Diseases, Dr. A. G. Heath, City Health Officer, Shreveport, La.

Business meeting.

Election of officers.

Adjournment.

A large and sumptious banquet was served on the evening of the first day, being tendered by the local medical societies. Talks were made by Dr. E. H. Carey, of Dallas, member of Board of Trustees of A. M. A., Dr. A. A. Herold, of Shreveport, President-Elect of the Louisiana State Medical Society, Mrs. Collom of Texarkana, on behalf of Women's Auxiliary of A. M. A. and Texas, and others.

DIED: Doctor Jesse L. Adams was born in Union County, Arkansas, on March 5th, 1873. He received his early education in the public schools, afterwards entering the Louisiana State University where he received his B. A. degree in 1903. He graduated from the Tulane Medical School in 1906. He then married Miss Zula Easley and moved to Monroe, Louisiana, where he has been engaged in the practice of medicine for the past nineteen years.

He served on the Board of Supervisors at the Louisiana State University from 1912 until the time of his death. He was a member of the following societies:

Ouachita Parish Medical Society

Fifth District Medical Society

The State Medical Society

The Southern Medical Association.

The American Medical Association.

The American College of Surgeons

He was a member of all branches of the Masonic Lodge, having at one time served as Worshipful Master. He was a member of the Rotary Club, having served as President of that organization.

He served as member of the Executive Committee of the St. Francis Sanitarium, of Monroe, since the standardization of that hospital. He was an efficient physician and a prominent surgeon. He was for many years and until his death one of the most prominent members of the Staff of Surgeons to the Missouri Pacific Railroad of this place.

Though there had been warnings of serious disease for sometime he was looking forward to a restful summer in the West with his family.

Such is a brief chronological account of some events in the life of a man who, through his interest in medicine and surgery, and by force of his personality became one of the most widely known men in his profession and civic obligations, and attracted from far and wide patients and friends who became devoted friends. Among his classmates in college there were many who won distinction in medicine. In the course of his busy life which carried him widely afield, he found time for many local activities.

Clearness of thought and simplicity of expression made him an enviable companion.

In the death of Dr. Adams the medical profession has suffered a great loss. An ardent student, a careful observer, a trained technician. He gave to those within and outside the profession, incalculable aid in the search for correct medical diagnosis.

Routine work was never irksome to him, since he introduced into all his labor that purely scientific spirit which is the ideal of our profession. No one who had come in any close contact with his cheerfulness and sympathy could have failed to appreciate and love him. Always a courteous gentlemen, a loyal friend, a charming companion, a faithful and conscientious physician, the world can ill afford the passing of such a personality.

DIED: Dr. James Marion Dennis, Cotton Valley, La.; Atlanta College of Physicians and Surgeons, 1904; aged 447; was killed Nov. 22, 1926, when the automobile in which he was driving plunged over an embankment.

ASSUMPTION PARISH MEDICAL SOCIETY.

The 1927 officers of the Assumption Parish Medical Society recently elected are:

President, Dr. T. B. Pugh, Napoleonville, La.

Vice-President, Dr. W. W. Pugh, Napoleonville, La.

Secretary-Treasurer, Dr. C. L. Roger, Napoleonville, La.

Delegate, Dr. W. E. Kittredge, Tallieu, P. O., La.
Alternate, Dr. W. W. Pugh, Napoleonville, La.

DIED: Dr. Hamilton P. Jones, prominent internist in the city of New Orleans, died suddenly December 5th, 1926, while automobile riding. Dr. Jones had been ill for the past six or eight months and had apparently improved sufficiently to get around comfortably.

Dr. Jones was born in New Orleans in 1872. He received his academic and medical degrees in the class of 1894. He was Associate Professor of

Chemistry under his father, Dr. Joseph Jones. In 1898 Dr. Jones acted in the yellow fever epidemic and was put in charge of a hospital on Canal Street.

In 1905, during this second epidemic, he again headed a hospital in Rampart and Dumaine Streets. He served in the Spanish-American War as a surgeon and was cited for bravery for administering medical aid under fire at San Juan Hill.

During the World War he was commissioned Lieutenant-Colonel and was put in charge of Government Hospitals at Fort Bliss, El Paso, Texas, and General Hospital No. 31 at Carlyle, Pa.

At the time of his death Dr. Jones was visiting physician at Charity Hospital and Hotel Dieu. He was a member of the Phi Delta Theta Fraternity, the Orleans Parish Medical Society, Louisiana State Medical Society, American Medical Association and Southern Medical Association.

The Journal extends its deepest sympathy to his widow and his son.

DIED: On December 23, 1926, Dr. John Frederick Oechsner, surgeon, of New Orleans, succumbed to heart trouble. He was 58 years old. Dr. Oechsner was for thirty years a member of the Charity Hospital staff and during 1923-24 was chairman of visiting staff. For many years he served as chief visiting orthopedic surgeon. In 1894 he was appointed assistant in surgery in Tulane; in 1897 he was appointed assistant demonstrator of anatomy; and in 1909 he was appointed professor of orthopedic surgery, a position he held until death. He was an active worker in the Rotary Club, the Charity Organization Society, the Warrington Home and the Travelers' Aid Society.

He was a member of the national board of governors of the Unitarian church, a thirty-second degree Mason, a knight commander court of honor Scottish Rite, member Chess, Checkers and Whist Club and Round Table Club. He was a member of the Orleans Parish Medical Society, Louisiana State Medical Society, Southern Surgical and Gynecological Association and American Medical Association.

Dr. Oechsner was born in New Orleans in 1868, graduated from the Boys' High School in 1885, and graduated in medicine at Tulane in 1895. He served his internship in Charity Hospital, New Orleans.

To the widow and to his children the *Journal* extends deepest sympathy.

TO THOSE INTERESTED IN DIATHERMY.

We are pleased to announce that Dr. Noble M. Eberhart, Chicago, Ill., will give practical demonstration on the use of Diathermy apparatus, as well as hold several clinics at the Hutchinson Memorial, New Orleans, La., beginning March 7th, 1927.

These lectures will be free to the profession, and all interested are invited to attend.

The following members of the faculty of the Graduate School of Medicine of the Tulane University of Louisiana attended the meeting of the Southern Surgical Association held at Biloxi, Miss., December 14, 15, 16, 1926:

Dr. E. Denegre Martin

Dr. Urban Maes

Dr. C. Jeff Miller

Dr. Joseph A. Danna

Dr. H. W. Kostmayer

Dr. **Hilliard E. Miller**

Dr. H. W. Kostmayer, of the Graduate School of Medicine of Tulane University of Louisiana, addressed the members of the LaSalle Parish Medical Society at their meeting held Thursday, January 6th, 1927, at Olla, La., the subject being "Some Non-Surgical Gynecological Procedures."

Dr. D. N. Silverman, a member of the faculty of the Graduate School of Medicine of Tulane University of Louisiana, addressed the members of the Harrison County Medical Society at their meeting held at Houston, Texas, Wednesday, January 5th, 1927, on "The Differentiation of Achylia Gastrica by Means of Histamine."

Dr. Robert Bernhard, of the Graduate School of Medicine of Tulane University of Louisiana, addressed the meeting of the Homochitto Valley Medical Society, at Natchez, Miss., on Thursday, January 13, 1927, on "Diseases of the Lung, Especially Pneumonia."

CITATION FOR THE AWARD OF THE SOFIE A. NODOFF-JUNG CANCER PRIZE.

The Sofie A. Nordoff-Jung Prize for the best contribution in Cancer Research during the past year has been awarded to Dr. Otto Warburg, Director of the Department of Biology of the Kaiser Wilhelm Institute, Berlin-Dahlem. The award was made on the unanimous decision of the commission.

The novel methods of investigation, developed by Professor Warburg, have opened reliable channels for tests on the metabolism of surviving tissues under varying conditions. With a single predetermination he has made available an abundance of valuable material through comparative experimentations on the processes of disintegration and oxydation of normal tissues and neoplasms. His biochemical attack on the cancer problem presages the most promising results.

Professors Borst, Doederlein, von Romberg, and Sauerbruch, all of the University of Munich, form the awarding commission.

UNITED STATES CIVIL SERVICE EXAMINATION.

The United States Civil Service Commission announces the following open competitive examination:

Physiotherapy aide

Physiotherapy pupil aide

Physiotherapy assistant

Application for these positions must be on file at Washington, D. C., not later than March 12 and May 28, 1927. The date of assembling of competitors will be stated on admission cards sent to applicants and will be about ten days after the date for the close of receipt of applications. Applications received after a closing date will be considered for the next date.

The examinations are to fill vacancies in the Field Service of the Veterans' Bureau and the Public Health Service.

The duties of physiotherapy aides consist of administering physiotherapy in its several branches —massage, electrotherapy, hydrotherapy, mechanotherapy, thermotherapy; active, passive, resistive, and assistive exercises and remedial gymnastics; keeping daily record of the work and progress of each and every patient coming under direction and treatment; making the required reports of the activities of the reconstruction work in physiotherapy.

The duties of physiotherapy pupil are the same as those for physiotherapy aides, except that they are pupils under the supervision and instruction of the chief aide in all the work above mentioned.

The duties of physiotherapy assistant consist of administering to special cases the treatments of physiotherapy, as massage, electrotherapy, hydrotherapy, thermotherapy, mechanotherapy; active, passive, assistive, and resistive exercises; remedial gymnastics; keeping a daily report of the work in progress on each patient under the appointee's direction and treatment; and making the required reports of the activities of the reconstruction work in physiotherapy.

Competitors will be rated on practical questions and their education, training, and experience. Competitors in the examinations for physiotherapy aide and physiotherapy pupil aide will also be rated on a mental test.

Full information and application blanks may be obtained from the United States Civil Service Commission, Washington, D. C., or the secretary of the board of U. S. civil-service examiners at the post office or customhouse in any city.

NOTICE OF EXAMINATION FOR ENTRANCE INTO THE REGULAR CORPS OF THE UNITED STATES PUBLIC HEALTH SERVICE.

Examinations of candidates for entrance into the Regular Corps of the U. S. Public Health Service will be held at the following-named places on the dates specified:

At Washington, D. C.....February 7, 1927

At Chicago, Ill.....February 7, 1927

At New Orleans, La.....February 7, 1927

At San Francisco, Cal.....February 7, 1927

Candidates must be not less than twenty-three nor more than thirty-two years of age, and they must have been graduated in medicine at some reputable medical college, and have had one year's hospital experience or two years' professional experience. They must pass satisfactorily, oral, written, and clinical tests before a board of medical officers and undergo a physical examination.

Successful candidates will be recommended for appointment by the President, with the advice and consent of the Senate.

Requests for information or permission to take this examination should be addressed to the Surgeon General, U. S. Public Health Service, Washington, D. C.

NURSING EDUCATION, UNIVERSITY OF CALIFORNIA.

A chair of nursing education has been established in the University of California, the new department to open with the new year. Instruction for teachers and administrators in schools of nursing will be correlated with other departments of the university. The endowment was furnished from registration fees paid by California nurses and made at their request.

ACCIDENTS TO WORKING CHILDREN.

Only three out of nine children injured or killed in industrial accidents in the State of Illinois in August, 1926, had the right to work, according to the State department of labor in its bulletin for September. Six of these girls and boys were illegally employed, and as a result of their employment one boy 12 years old was killed, one boy working on a power machine lost his arm, and one girl lost four fingers at the middle joints. The three remaining children employed illegally received temporary injuries causing them to lose time from work. In addition to these 9 accidents to working children under 16 years of age there were reported during August 86 industrial accidents to boys and girls of 16 and 17 years. One boy was killed and 7 boys and 4 girls suffered permanent injuries.

During the following month nine accidents to working children under 16 were reported, four of them to children employed illegally. Such children do not come under the protection of the workmen's compensation law. Employers can not get insurance from any company for children illegally employed. The Labor Bulletin urges employers to obtain proper working certificates for their child employees.

The executive committee of the board of visitors of the Medical College of Virginia, Richmond, has authorized President W. T. Sanger and the college authorities to map out a twenty-year building program preliminary to the construction of three new buildings projected for the immediate future. These will include a women's dormitory, a new clinic for the walking sick, and laboratory for chemistry, bacteriology, and pathology.

At the memorial exercises held at the Medical College of Virginia, Richmond, on January 7, for Dr. John W. Brodnax, anatomist and artist, who died last October, papers were read by Dr. W. Lowndes Peple, Dr. Robert C. Bryan, Dr. H. L. Osterud, Dean W. F. Rudd, and Mr. Rufus Alley. Doctor Brodnax was a member of the department of anatomy of the Medical College of Virginia for thirty-three years.

UNITED STATES CIVIL SERVICE EXAMINATION.

The United States Civil Service Commission announces the following open competitive examination:

Dietitian

Applications for dietitian will be rated as received until June 30, 1927. The examination is to fill vacancies in the Public Health Service and the Veterans' Bureau throughout the United States.

The entrance salary in the Public Health Service is $1,800 a year when no additional allowance is furnished; when quarters, subsistence, and laundry are furnished the compensation is $1,020 a year. The usual entrance salary in the Veterans' Bureau ranges from $1,680 to $2,040 a year.

The duties are to purchase the food supplies for all messes operated in the hospital; to plan all menus, both for patients on ordinary diets and diets with reference to special diseases; and the supervision of the preparation and serving of all dietaries in the hospital, both to patients and personnel.

Competitors will not be required to report for examination at any place, but will be rated on their education, training, and experience.

Full information and application blanks may be obtained from the United States Civil Service Commission, Washington, D. C., or the secretary of the board of U. S. civil-service examiners at the post office or customhouse in any city.

UNITED STATES CIVIL SERVICE EXAMINATION.

The United States Civil Service Commission announces the following open competitive examination:

Assistant medical officer

Associate medical officer

Medical officer

Senior medical officer

Applications will be rated as received by the United States Civil Service Commission at Washington, until June 30, 1927.

There is especial need for medical officers qualified in tuberculosis or neuropsychiatry, for duty at hospitals of the Veterans' Bureau. There are a number of vacancies in position in the Indian Service which call for training in general medicine and surgery. In addition, there is opportunity for appointment of specialists in practically all branches of the profession.

In addition to the Veterans' Bureau and the Indian Service, appointments from these examinations will be made to the Public Health Service, the Coast and Geodetic Survey, the Panama Canal Service, the Departmental Service at Washington, and other branches.

The demand for specialized medical officers in the Federal service is constant and the supply of eligibles is rarely equal to the demand.

Applicants will not be required to report for written scholastic tests, but will be rated on their education and training, and their practical experience.

Full information and application blanks may be obtained from the United States Civil Service Commission, Washington, D. C., or the secretary of the board of U. S. civil-service examiners at the post office or customhouse in any city.

RESULTS OF THE MOHONK CANCER SYMPOSIUM.

The Symposium on Cancer Control held at Lake Mohonk, N. Y., September 20-24, was for the purpose of considering the prevention and cure of cancer from a practical standpoint, and to express in concise language the fundamental groundwork of fact and opinion upon which the collective effort now being made in the United States and other countries for the control of cancer should be continued and extended.

It was believed that there were many things which physicians and surgeons could agree upon, and that if these agreements could be expressed in simple, concise language the results would be of much value.

The meeting was brought about by the American Society for the Control of Cancer and was first announced many months ago.

Among the noted European specialists present were: Dr. Raffelo Bastianelli, Professor of Surgery at the University of Rome; Dr. Leon Berard, Professor of Surgery at the University of Lyons; Sir John Bland-Sutton, Bt., President of the Royal College of Surgeons, Vice-Chairman of the British Empire Cancer Campaign; Dr. Ferdinand Blumenthal, Professor of Internal Medicine at the University of Berlin; Dr. William deVries, President of the Netherlands Cancer Institute, Amsterdam, Professor of Pathologic Anatomy at the University of Amsterdam; Dr. Henri Hartmann, Professor of Surgery at the University of Paris; Dr. J. Maisin, Professor at the University of Louvain; Dr. James A. Murray, Director of the Imperial Cancer Research Fund, London; Dr. Claude Regaud, Director of the Pasteur Laboratory of the Radium Institute, Paris; Dr. Albert Reverdin, General Secretary to the Anti-Cancer Center of Geneva.

Among the Americans were: Dr. Howard Canning Taylor, Professor of Clinical Gynecology at Columbia, President, Dr. Francis Carter Wood, Director of the Institute for Cancer Research, Columbia, Vice-President, and Dr. George A. Soper, Managing-Director, of the American Society for the Control of Cancer; Dr. Robert B. Greenough, member of the Harvard Cancer Commission and Director of the Huntington Memorial Hospital, Boston; Dr. James Ewing, Professor of Pathology, Cornell Medical College, and Director of the Memorial Hospital, New York; Dr. Charles Mayo, Rochester, Minnesota; Dr. Joseph Colt Bloodgood, Associate Professor of Clinical Surgery at Johns Hopkins University; Dr. William H. Welch, Director of the Institute of Hygiene and Public Health, Johns Hopkins University; Dr. Burton J. Lee, Dr. George H. Semken, Dr. Willy Meyer, Dr. Isaac Levin, Dr. John Shelton Horsley of Richmond, Dr. Alson R. Kilgore of San Francisco, Dr. Alexandria Primrose of Canada, Miss Maud Slye of Chicago, and Dr. Erwin Smith of Washington.

The program consisted of twenty-seven carefully prepared papers covering practically every phase of the cancer problem. These were read and discussed. Differences of opinion with regard to some of the scientific and theoretical details underlying the present conception of cancer and its causation existed, but when it came to discussing the large and important steps to be taken for the better control of the disease, the meeting was unanimous.

Two resolutions were passed, after careful consideration by a committee and discussion before the whole gathering. One was a proposition to form an international federation in order to bring about more meetings like the Mohonk symposium and publish in at least three languages an index and abstract of all papers on cancer which appeared anywere in the world. By resolution this proposition was referred to the many national societies against cancer, with a recommendation that the plan, or one similar to it, be adopted, if upon further study, means could be found for deferring the cost of the work.

The second resolution was the adoption of a statement of the facts and opinions upon which campaigns against cancer should be conducted.

At a dinner to the foreign guests held in New York at the end of the symposium, and attended by about 250 physicians, Sir John Bland-Sutton declared that the meeting would make medical history. He spoke in part as follows:

"We have had a very strenuous week, and I will say in all my experiences in congresses and association meeting I have never been to one in which there was a more complete absence of acrimony and so much work was accomplished. The zeal which led so many investigators, surgeons and physicians to cross the Atlantic and come from all parts of the American Continent is creditable, and the earnestness they displayed in the conference is beyond all praise. In fact, they were so earnest in their dicussions that they even con-

tinued them on the hotel porches and in the dining room. This meeting is certain to make medical history."

Dr. Wendell Phillips, President of the American Medical Association, said:

"This meeting has done much to stabilize the knowledge that we have of cancer, and it will clarify the opinions, not only of medical men, but of the public. In this respect it will accomplish what no other meeting has done before. It is a great thing to preach up the right rather than to preach down the wrong, and those who have been at Mohonk have been preaching up the right. They have not been making any attacks on individuals or institutions. During this week my telephone has been rung time and time again, not only by newspapers, but by doctors, and the question has been asked, why was not a certain group of men up at Lake Mohonk. I had the pleasure of answering them, and fully explaining why these persons were not at Mohonk. The reasons were excellent."

"The great note struck at the Mohonk symposium," declared Dr. Welch, "was the tremendous importance of the cancer question and the appalling problems which it presents. There was never a time when tuberculosis presented problems of such magnitude. The general public and the medical profession must be aroused to the vital importance of efforts to control cancer. However inadequate our knowledge is today, it is an obligation of the profession to the general community that every effort be made to control this scourge. The community must be taught that all types of cancer are not certainly and inevitably fatal if they are recognized and properly treated at an early stage. Emphasis was placed upon the importance of research work, the need of further additions to our knowledge on the one hand, and equally, upon the necessity of applying our existing information for the saving of human life and suffering. There is no disease to which larger additions have been made to our knowledge than cancer, but because this knowledge does not reach the public which we are most anxious to reach, this seem trivial. The many papers and discussions will be published, and make a volume which will be an epochal contribution to our knowledge of cancer."

STATEMENT OF THE FACTS AND OPINIONS AGREED TO BY THE INTERNATIONAL MEETING ON CANCER CONTROL HELD AT LAKE MOHONK, N. Y., SEPTEMTEMBER 20-24, 1926.

Although the present state of knowledge of cancer is not sufficient to permit of the formulation of such procedures for the suppression of this malady as have been successfully employed for the control of infectious diseases, there is enough well established fact and sound working opinion concerning the prevention, diagnosis and treatment of cancer to save many lives, if this information is carried properly into effect.

1. The causation of cancer is not completely understood, but it may be accepted that for all practical purposes cancer is not to be looked upon as contagious or infectious.

2. Cancer itself is not hereditary, although a certain predisposition or susceptibility to cancer is apparently transmissible through inheritance. This does not signify that, because one's parent or parents or other members of the family have suffered from cancer, cancer will necessarily appear in other persons of the same or succeeding generation.

3. The control of cancer, so far as this subject can be understood at the present time, depends upon the employment of measures of personal hygiene and certain preventive and curative measures, the success of which depends upon the intelligent co-operation of the patient and physician.

4. Persons who have cancer must apply to competent physicians at a sufficiently early stage in the disease, in order to have a fair chance of cure. This applies to all forms of cancer. In some forms early treatment affords the only possibility of cure.

5. Cancer in some parts of the body can be discovered in a very early stage, and if these cases are treated properly the prospects for a permanent cure is good.

6. The cure of cancer depends upon discovering the growth before it has done irreparable injury to a vital part of the body and before it has spread to other parts. Therefore, efforts should be made to improve the methods of diagnosis in these various locations and the treatment of the cancers so discovered.

7. The public must be taught the earliest danger signals of cancer which can be recognized by persons without a special knowledge of the subject, and induced to seek competent medical attention when any of these indications are believed to be present.

8. Practitioners of medicine must keep abreast of the latest advances in the knowledge of cancer in order to diagnose as many as possible of the cases of cancer which come to them.

9. Surgeons and radiologists must make constant progress in the refined methods of technic

which are necessary for the diagnosis and proper treatment not only of ordinary cases but of the more obscure and difficult ones.

10. There is much that medical men can do in the prevention of cancer, in the detection of early cases, in the referring of patients to institutions and physicians who can make the proper diagnosis and apply proper treatment, when the physicians themselves are unable to accomplish these results. The more efficient the family doctor is, the more ready he is to share responsibility with a specialist.

12. Dentists can help in the control of cancer by informing themselves about the advances in the knowledge of the causes of cancer, especially with relation to the irritations produced by imperfect teeth and improperly fitting dental plates. They can also help by referring cases of cancer which they discover to physicians skilled in the treatment of cancer in this location. It may be doubted whether all dentists fully realize the help which can be obtained from X-ray photographs in revealing not only the state of the teeth but the condition of the bone surrounding them.

12. Medical students should be instructed in cancer by the aid of actual demonstrations of cancer patients, and this to a sufficient extent to give them a good working knowledge of the subject.

13. The most reliable forms of treatment, and, in fact, the only ones thus far justified by experience and observation, depend upon surgery, radium and X-rays.

14. Emphasis should be placed upon the value of the dissemination of the definite, useful and practical knowledge about cancer, and this knowledge should not be confused nor hidden by what is merely theoretical and experimental.

15. Efforts toward the control of cancer should be made in two principal directions: (1) The promotion of research in order to increase the existing knowledge of the subject; and (2) the practical employment of the information which is at hand. Even with our present knowledge many lives could be saved which are sacrificed by unnecessary delay.

SPECIAL ATTENTION.

Contrary to our wishes and regardless of the unusual scrutiny and protection which has always surrounded our advertising policy to prevent the use of the *Journal* for the purpose of exploiting fraudulent advertising, there appeared in the recent issues of the *Journal* a fraudulent advertisement from the Acme Farms, Gainesville, Florida.

We regret the instance very much, and would request to hear from any of our subscribers who have lost anything by answering the advertisement in question, in order that attempts may be made to have same satisfactorily adjusted.

MISSISSIPPI STATE MEDICAL ASSOCIATION NEWS

J. S. Ullman, M. D., Associate Editor.

At the January meeting of the DeSoto County Medical Society the following officers were elected:

President—A. V. Richmond, Lake Cormorant.

Vice-President—H. A. Stuart, Olive Branch.

Secretary & Treasurer—L. L. Minor, R-4, Memphis.

Delegate to State Association—A. L. Emerson, Hernando.

Alternate Delegate—L. L. Minor, Memphis.

The society decided to retain its charter and not to unite with any other county or counties to form a larger organization.

The society meets every other month.

The Tri-County Medical Society met in Brookhaven, December 14, 1926, and had Dr. Carrol W. Allen as its guest of honor.

Dr. W. H. Frizell presented clinical cases.

Dr. O. M. Arrington, in his presidential address, recommended that county health units be employed in particular for the study of prevention of disease.

The following officers were elected for the ensuing year:

President—Dr. A. B. Harvey, Tylertown.

Vice-President—Dr. J. E. Brumfield, Tylertown.

Vice President for Pike—Dr. M. D. Ratcliffe.

Vice President for Lincoln—Dr. Geo. T. Warren.

Vice President for Copiah—Dr. J. M. Catchings.

Secretary-Treasurer—Dr. Elise Rutledge, McComb.

Delegates to the State Medical Association—Dr. B. L. Crawford, Walthall; Dr. O. N. Arrington, Lincoln; Dr. W. L. Little, Copiah; Dr. E. B. French, Pike.

Censor—Dr. W. L. Little, Copiah.

Chairman Medical Defense—Dr. F. E. Collins.

The society will apply for a new charter authorizing the entrance of Lawrence County into the group.

The Woman's Auxiliary of the Tri-County Medical Society met at the same time with Mrs. T. E. Hewitt of Summit presiding. She spoke on "A Day in the Life of the Wife of a Country Doctor." A vote of thanks for the organization was given Mrs. W. H. Frizell, district organizer of the auxiliary.

For the ensuing year the following officers were elected:

President—Mrs. J. H. Johnson.

First Vice President—Mrs. O. N. Arrington.

Second Vice President—Mrs. E. B. French, McComb.

Corresponding Secretary—Mrs. Givens, Pike.

Recording Secretary—Mrs. G. T. Warren;

Treasurer—Mrs. Bauer, McComb.

The North East Mississippi Medical Society met at Tupelo on December 21, 1926. This was a joint meeting of the Doctors, Dentists, Nurses, and Pharmacists. The following program was presented:

"Circumcision," Dr. C. B. Mitchell, Starkville.

"Co-operative Medicine," president's address, Dr. W. J. Aycock, Derma.

"The Need of a More Active Co-operation between the Medical and Nursing Professions," Miss Mayme B. Lynch, R. N., President Graduate Nurses Association, Columbia.

"Medicine of the Past and Present," Dr. H. M. Faser, Dean of Pharmacy, University of Miss.

"The Status of the Pulpless Teeth," Dr. Justin D. Towner, Periodontist, Memphis.

"Dental Impactions, their relation to the Nervous System, a lantern slide lecture," Dr. John J. Ogden, Exodontist, Memphis.

"Health Service of the Future," Dr. C. C. Bass, Dean of Tulane, New Orleans.

"Public Health, the Greatest Fundamental Problem in America, and What the Mississippi Developing Board is Doing About It," L. J. Folse, Mgr. Mississippi Developing Board.

"Indications for Urological Study," Dr. C. D. Allen, Memphis.

"Diseases of the Prostate Gland, Their Medical and Surgical Treatment," Dr. Russell A. Hennessey, Memphis.

The following officers were elected for 1927:

President—Dr. S. L. Nabors, Itawamba, Nettleton, Miss.

County Vice Presidents:

Alcorn—Dr. W. A. Johns, Corinth.
Clay—Dr. J. E. Ellis, West Point.
Calhoun—Dr. J. B. Shaw, Slate Springs.
Itawamba—J. T. Senter, Fulton.
Lee—J. M. Boggan, Tupelo.
Lowndes—W. C. Brewer, Columbus.
Monroe—J. B. Sims, Aberdeen.
Noxubee—A. R. Sanders, Brooksville.
Oktibbeha—H. L. Scales, Starkville.
Pontotoc—L. O. Carruth, Pontotoc.
Prentiss—L. L. McDougal, Booneville.
Tishomingo—A. E. Bostick, Golden.
Secretary and Treasurer—Dr. James A. Acker, Aberdeen.

The March meeting will be held in Amory.

Dr. J. Bethea of Hattiesburg, Mississippi, is now convalescing from a serious illness of several weeks duration.

Finishing touches are now being given the new Methodist seventy-five bed hospital at Hattiesburg.

At the December meeting of the South Mississippi Medical Society Dr. E. M. Harrelson of Stringer was elected President and Dr. R. H. Foster of Laurel, Secretary for 1927.

The first meeting of the Issaquena-Sharkey-Warren County Medical Society was held at the Y. M. C. A. at Vicksburg, January 11. The program was as follows:

"Subdeltoid Bursitis," Dr. J. A. K. Birchett, Jr.

"The Indications for Surgery of the Thyroid," Dr. W. H. Parsons.

The Society discussed plans for entertaining the State Medical Association at its annual convention, May 10-12, 1927.

The first quarterly meeting of the Homochitto Valley Medical Society was held in Natchez, January 13, the president, Dr. W. R. Brumfield, in the chair.

Dr. Robert Bernhard of the staff of Tulane University, New Orleans, lectured on pneumonia and Dr. J. S. Ullman spoke on the treatment of cancer of the uterus.

Dr. Raymond T. Smith, Natchez, Mississippi, was elected to membership.

The nurses home of the Chamberlain-Rice Hospital was damaged by fire. It has been announced that the building will be repaired and remodeled.

A news item stated that the Jackson Charity Hospital, which has been closed for more than two months because of lack of funds, would reopen as soon as the funds for 1927 became available.

INDIGENT PHYSICIANS.

The American Medical Association is engaged at the present time in making a survey of the entire country in an effort to ascertain how many physicians there may be in destitute circumstances and who have no relatives able to support them. This is a most worthy undertaking and if any member of the Mississippi State Association knows of any such physician in his vicinity he would aid in this work by communicating with the secretary of the State Association or with the editor of this column giving the necessary data.

BOOK REVIEWS

Textbook of Embryology: By Harvey Ernest Jordan, A. M., Ph.D., and James Ernest Kindred, A. M., Ph.D. Plates. New York and London: D. Appleton & Co. 1926.

The purpose of this text to present a straightforward account of human development is accomplished by giving the established facts in development, based on human material when possible, and by filling the gaps in our knowledge of development with logical hypothetical stages instead of giving an excessive mass of comparative data. Comparative embryology and anatomy, however, have not been entirely ignored.

The early stages of development are treated concisely and largely comparatively. The chapters dealing with the origin and differentiation of the human organ-systems (organogenesis), are quite elaborate and comprehensive. At the end of each chapter there is given a brief description of certain developmental anomalies which may occur in connection with the organs described in the chapter. In chapter XXVI (teratology), the nature and origin of the more complex anomalies and monsters are discussed, and also the causes underlying the origin of malformations. The last part comprises a laboratory manual for the study of chick and pig embryos.

The book is profusely illustrated; but unfortunately, instead of securing a loan of all original plates, a number of illustrations are distorted by poor copying.

Even though the book has been prepared for the use of medical students, primarily, it does not merit recommendation as a standard text owing to the inclusion of much subsidiary material and the briefness with which it treats the origin and history of fetal membranes. Nevertheless it contains much readable material for students; and the special consideration given such topics as sex-determinations, phylogeny, twinning, eugenics, and teratology render this book especially valuable to the medical profession at large.

M. Dees Mattingly, M. D.

Leadership: A Manual of Conduct and Administration: By William Colby Rucker, M. S., M. D., Dr. P. H., Surgeon, U. S. Public Health Service. New York: The Macmillan Company. 1926.

The successful practitioner of medicine or public health must be a leader. In the extensive curriculum of study which the student must pursue before he may be allowed to follow either of these professions, this subject is generally omitted and in presenting this book, the author has met a real need. While it is written largely from the viewpoint of the Public Health Service, this little volume is packed with mental pabulum which is bound to be nourishing to the field of institutional and general medicine. Under the caption of "Self Leadership," those basic principles which are essential to adequate self direction and control are laid down. These are then elaborated in their multiform applications to the leadership of others. The subject matter proceeds logically, is sound in conception and pleasing in execution. The discussion of character and its formation is wise and every paragraph is full of real meat. The book is thoroughly readable throughout and bespeaks much experience and intelligent observation. There is a good index and the publisher has produced a well-printed and attractively bound volume of convenient size. It should receive an enthusiastic reception from the entire field of medicine, particularly in Louisiana where Doctor Rucker is so well known.

Oscar Dowling, M. D.

Practical Dietetics for Adults and Children in Health and Disease: By Sanford Blum, A. B., M. S., M. D. 2d rev. ed. Philadelphia: F. A. Davis Co. 1926.

A very good compend for the busy practitioner. It is well arranged, clear and complete. The diet outlined is correct from the medical standpoint and is such that the patient can and will follow. Diets which are too stringent are as a rule seldom followed. The part describing X-ray preparation diet is valuable. The book does not discuss skin food tests, so the diets given for Hay Fever and various skin affections may require modification before being applied to individual cases, but the diets outlined for Colitis and Constipation are particularly good.

Narcissus Thiberge, M. D.

Principles of Medical Treatment: By George Cheever Shattuck, M. D., A. M. With contributions by other authors. Cambridge: Harvard University Press. 1926.

The medical profession has used and appreciated five previous editions of Professor Shattuck's useful little manual and the sixth edition will doubtless replace many a dog-eared copy in busy practitioners' handbags and on their desks. The general arrangement of topics is the same as in previous editions but the subject matter is brought up to date. Late procedures and discoveries are con-

sidered in a conservative manner and the information imparted is from the actual experience of the author or the contributors or is drawn from authoritative sources. The chapter on "Pre-operative and Post-operative Medical Treatment" contains useful and important information presented in an unusually accessible form.

FRANCIS M. MUNSON, M. D.

The Practical Medicine Series. General Medicine: Edited by Charles L. Mix, George H. Weaver, Lawrason Brown, Robert B. Preble and Ralph C. Brown, Chicago: The Year Book Publishers. 1926.

The 700 pages devoted to the subject of medicine as it appeared in current medical publications during the past year, represent a clear and critical summary of the advances in medicine during this period of time. The four sections indicate, in the amount of space devoted to the several diseases, the interest that has been shown in experimental and clinical work in these diseases during the past year. It is of interest to note that 41 pages are devoted to scarlet fever, 15 pages to encephalitis, nearly 100 pages to tuberculosis, 51 pages to diseases of the stomach, 30 pages to diseases of the liver and gall bladder. It is also of interest to contrast the space allotted to these diseases with the space allotted to these and other diseases in the past volumes. Tuberculosis has always had much space devoted to it, whereas the tide of interest in certain diseases has ebbed and flowed and many more pages have been devoted to other diseases than to those which now claim attention and intensive study.

J. H. MUSSER, M. D.

Medical Diagnosis: By James M. Anders, M. D., Ph.D., LL.D., and L. Napoleon Boston, A. M., M. D. Third edition. Philadelphia: W. B. Saunders Co. 1925.

The general plan of the second edition has been retained in the third edition of this splendid text of Medical Diagnosis. The descriptive cases to be found in previous editions have been omitted, but the diagnostic tables have been retained and brought up to most recent Clinical and Laboratory standards. Several newly described diseases and conditions, and a large number of subjects to which much material has been added are presented. Particularly in Blood Chemistry, Basal Metabolism, Electrocardiography, and Rontgenology. Numerous illustrations with photographs and colored plates are given.

R. T. LILES, M. D.

Element of Pathology: By Allen G. Ellis, M. Sc., M. D. Philadelphia: P. Blakiston's Sons & Co. 1926.

This text has been carefully reviewed and it can be recommended very highly, for the medical student, especially the beginners. The elements of Pathology are simply and well explained. Dr. Ellis' chapters on post-mortem work are well written and should be a great help to those interested in this subject.

ANDREW V. FREDRICHS, M. D.

CORRECTION.

Our attention has been called to the fact that in the book review of Surgical Treatment of Goiter, by Willard Bartlett, appearing in the January number of this journal, the statement is made "The chapter Details of Technic is inadequate." This is an error which escaped the attention of the proofreader. The sentence should read, "The chapter on Details of Technic is adequate," thereby changing the judgment of the reviewer from negative to positive. We very much regret this error and are glad of this opportunity to correct it.

PUBLICATIONS RECEIVED.

The MacMillan Company, New York: "Transfusion of Blood," by Henry M. Feinblatt, M. D.

Paul B. Hoeber, New York: "The Life and Time of Adolf Kussmaul," by Theodore H. Bast, Ph. D. "The Normal Child," by B. Sachs, M. D. "History Taking and Recording," by James A. Corscaden, M. D.

J. B. Lippincott Company, Philadelphia and London: "International Clinics, Vol. IV, Thirty-sixth Series, December, 1926."

W. B. Saunders Company, Philadelphia and London: "The Specialties in General Practice," compiled by Francis W. Palfrey, M. D. "A Manual of Pharmacology," by Torald Sollmann, M. D.

Washington Government Printing Office: "Annual Report of the Surgeon General of the Public Health Service of the United States. 1926."

The Year Book Publishers, Chicago: "The Practical Medicine Series, General Surgery, edited by Evarts A. Graham, A. B., M. D.

Reprints

"A Modern Belladonna Plaster," by Fred B. Kilmer, Ph. M., New Brunswick, N. J.